November 5, 2013

Board of Trustees
Teachers' Retirement System of Louisiana
Post Office Box 94123, Capitol Station
Baton Rouge, Louisiana 70804-9123
Ladies and Gentlemen:
This report presents the results of the actuarial valuation of assets and liabilities, as well as funding requirements, for the Teachers' Retirement System of Louisiana as of June 30, 2013. The format of this report was designed with the intent of highlighting the pertinent results of the valuation and funding requirements.

In preparing this valuation, we have relied upon the information provided by the System regarding plan provisions, plan membership data, plan assets and other matters as detailed in the exhibits of this report. In particular, we have relied upon the statement of assets provided by Hawthorn, Waymouth and Carroll, 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 present values 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. However, the use of another set of assumptions and methods could also be reasonable and could produce materially different results. Actual results may vary from assumptions used to prepare the valuation.

Exhibit 3, "Pension Accounting and Financial Disclosure", contains disclosure of the accrued liabilities required by the Governmental Accounting Standards Board Statement No. 25. 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.

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

Respectfully submitted,
FOSTER \& FOSTER INC.
Shelly R.Gohnson


## TABLE OF CONTENTS

LETTER OF CERTIFICATION Pages
SUMMARY OF VALUATION RESULTS
Summary of Valuation Results ..... 2
Projected Contribution Rates by Plan ..... 3
Changes in Current Funding and UAL ..... 3
Legislative/Plan Changes ..... 5
Actuarial Assets/Valuation Assets ..... 5
Plan Experience ..... 6
Funding of Administrative and Investment Expenses ..... 7
Funding of Future Post Retirement Benefit Increases ..... 7
Future Funding as a Percentage of Payroll ..... 8
EXHIBIT 1 DEVELOPMENT OF COSTS, LIABILITIES \& CONTRIBUTIONS ..... 9-10
Provides a detail by benefit type of the cost to accrue annualpension benefits, liabilities accrued to date, and fundingrequirements
EXHIBIT 2 FINANCIAL SUMMARY ..... 11-14Contains the statement of revenue and expenses as well as assetsavailable to pay pension benefits
EXHIBIT 3 PENSION ACCOUNTING AND FINANCIAL DISCLOSURES ..... 15-17
Disclosures and statistical tables in accordance with GASB's Statement No. 25
EXHIBIT 4 CENSUS DATA ..... 18-30
Describes the employee data, data processing for valuation purposes, member reconciliation, and depicts employee profiles by classification, age and service
EXHIBIT 5 SUMMARY OF PLAN PROVISIONS ..... 31-45
Restates in summary outline form the basic plan provisions which were incorporated in the projected retirement pension benefit
EXHIBIT 6 ACTUARIAL COST METHODS AND ASSUMPTIONS ..... 46-57
Discloses rates of mortality, disability, retirement termination and other assumptions which are presumed to reflect the experience of the retirement system in aggregate
EXHIBIT 7 AMORTIZATION SCHEDULE
Exhibit 7-A - June 30, 2013 ..... 58
Exhibit 7-C - June 30, 2014 - Projected ..... 59
Exhibit 7-C - Table and Graph of Payment Schedule ..... 60
Exhibit 7-D - Amortization Schedule Notes ..... 61
Exhibit 7-E - Components of Original Amortization Base ..... 62

## SUMMARY OF VALUATION RESULTS

A brief summary of the more important figures developed in this valuation, with comparable results from previous valuations is as follows:
------- Prior Years -------
June 30, 2013
I. Membership Census

| 1) Retirees | 71,031 | 67,657 | 65,512 |
| :--- | ---: | ---: | ---: |
| 2) Actives | 82,910 | 84,513 | 86,742 |
| 3) DROP | 2,451 | 2,637 | 3,032 |
| 4) Terminated Vested | 5,991 | 6,439 | 5,852 |
| Annual Benefits | $\$ 1,644,237,684$ | $\$ 1,548,631,764$ | $\$ 1,471,714,284$ |

III. Current Payroll

| Regular Teachers | $3,155,147,352$ | $3,220,120,617$ | $3,418,593,800$ |
| :--- | ---: | ---: | ---: |
| Higher Education | $546,602,349$ | $562,139,355$ | $452,162,646$ |
| Lunch A | $1,755,008$ | $2,610,172$ | $6,388,920$ |
| Lunch B | $22,821,041$ | $23,890,450$ | $25,501,168$ |
|  | $3,726,325,750$ | $3,808,760,594$ | $3,902,646,534$ |
| Total | $14,669,155,950$ | $13,584,408,961$ | $13,286,294,879$ |

V. Investment Yield

Market Value (Total Assets)
Market Value (Excl LaDROP Assets)

| $12.57 \%$ | $-0.39 \%$ | $24.91 \%$ |
| :--- | :--- | :--- |
| $12.79 \%$ | $-0.32 \%$ | $25.55 \%$ |

Actuarial Value
DROP
VI. Experience Account
VII. Total Normal Cost ${ }^{1}$

Total Normal Cost (\% of Payroll) ${ }^{1}$
Employer Normal Cost (\% of Payroll)
VIII. Unfunded Actuarial Accrued Liability
IX. Funded Percentage
X. Funding Requirements (Mid-year Pmt)

| 1) Employee Contribution | $302,615,214$ | $312,565,974$ | $320,347,489$ |
| :--- | ---: | ---: | ---: |
| Reg Teachers/Higher Ed | $8.00 \%$ | $8.00 \%$ | $8.00 \%$ |
| Lunch Plan A | $9.10 \%$ | $9.10 \%$ | $9.10 \%$ |
| Lunch Plan B | $5.00 \%$ | $5.00 \%$ | $5.00 \%$ |
| 2) Employer Contribution | $1,155,693,972$ | $1,088,298,250$ | $1,064,568,518$ |
| Aggregate Rate (Current Year) ${ }^{2}$ | $27.3 \%$ | $25.0 \%$ | $24.0 \%$ |
| 3) Projected Employer Contribution | $1,208,736,413$ | $1,211,086,287$ | $1,116,280,330$ |
| Aggregate Rate (Next Year) $^{3}$ | $27.7 \%$ | $27.1 \%$ | $24.5 \%$ |

The above funding requirements measure the cost of benefits that were in effect on June 30, 2013, and Acts of the 2013 Regular Legislative Session.

Excludes projected administrative expenses beginning June 30, 2013. This is a reporting change, not a funding change.
2 Reflects the restated aggregate employer contribution rate for the fiscal year following the valuation, as determined by the current year 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 the 2012 Regular Legislative Session requires the employer rate to be individually determined for each plan type as defined within the Act beginning with Fiscal Year 2012/2013. The term "plan" is used to define each employer group defined in the Act, and not to imply that each group has 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 due to a specific plan or group of plans due to legislation will be allocated entirely to that plan or those plans. The employer rates by plan are as follows:

|  | Recommended Employer Rate for FY 14/15 |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total <br> Normal <br> Cost Rate | Employee <br> Normal Cost <br> Rate | Employer <br> Normal Cost <br> Rate | Shared <br> UAL <br> Rate | Particularized <br> UAL <br> Rate | Total <br> Employer <br> Contribution <br> Rate |
| Regular Teachers | $13.3 \%$ | $8.0 \%$ | $5.2545 \%$ | $22.7 \%$ | $0.0 \%$ | $\mathbf{2 8 . 0 \%}$ |
| Higher Education | $11.7 \%$ | $8.0 \%$ | $3.6658 \%$ | $22.7 \%$ | $0.0 \%$ | $\mathbf{2 6 . 4 \%}$ |
| Lunch Plan A | $19.5 \%$ | $9.1 \%$ | $10.4157 \%$ | $22.7 \%$ | $0.0 \%$ | $\mathbf{3 3 . 1 \%}$ |
| Lunch Plan B | $12.4 \%$ | $5.0 \%$ | $7.4148 \%$ | $22.7 \%$ | $0.0 \%$ | $\mathbf{3 0 . 1 \%}$ |
| Aggregate Rate | $13.0 \%$ | $8.0 \%$ | $5.0371 \%$ | $22.7 \%$ | $0.0 \%$ | $\mathbf{2 7 . 7 \%}$ |

The reduction in the Higher Education Normal Cost rate from the prior year's valuation is a result of the increase in assumed withdrawal rates, following the experience study recently adopted by the Board. The variation in normal cost by plan reflects differences in benefits, actuarial assumptions, and member demographics based on the projected unit credit cost method, as required by statutes. One aspect of this method is that the average normal cost tends to increase as the average age of plan members increases. The aggregate normal cost rate would be expected to remain fairly level if the average membership age for all plans remains level. The entry age normal cost method would result in more stable funding requirements by plan in the event of changing demographics.

## Changes in Funding Requirements and UAL

The basic elements of the annual required contribution are the normal cost and amortization of the Unfunded Actuarial Liability (UAL). The normal cost is the annual cost to provide an additional year of benefit accrual. The normal cost is divided into the employee portion and the employer portion, both expressed as a percentage of payroll. Statutes provide for the amortization of the IUAL plus subsequent changes in benefits, methods or gain/loss experience.

The Actuarial Valuation for the plan year ending June 30, 2013, discloses an increase in the value of the plan's unfunded accrued liability and a decrease in prospective funding requirements. However, the required employer contribution as a percentage of payroll has increased. Changes in the required contribution are usually the result of changes in actuarial assumptions, and/or gains or losses resulting from actual experience differing from expected plan experience, and expected changes in the UAL payment due to statutory requirements. 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 changes most affecting the increase in liability are the decrease in the discount from $8.25 \%$ to $8.00 \%$ and the change in mortality assumptions. The increase was partially offset by an investment experience gain relative to the assumed actuarial rate, the increase in assets that resulted from the change in the asset valuation method, and an experience gain from assumptions other than the investment assumption. The increase in the projected employer rate was due to many factors, as shown 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 do not operate in isolation of each other, hence are not additive.

## Aggregate Contribution Rate Change from FY 13/14 to FY 14/15

| Normal Cost (demographic change) | $0.0 \%$ |
| :--- | ---: |
| Normal Cost (experience study assumption change) | $-0.7 \%$ |
| UAL Payment | $-1.3 \%$ |
| Investment Experience Gain | $-0.1 \%$ |
| Other Experience Gain | $-0.1 \%$ |
| Asset Valuation Method Change | $0.5 \%$ |
| Experience Account Allocation | $0.7 \%$ |
| Experience Study Assumption Change | $0.9 \%$ |
| Statutory UAL Payment Increase | $0.4 \%$ |
| Contribution Variance Payment Change | $0.7 \%$ |
| Payroll Change | $0.8 \%$ |
| Total | $0.6 \%$ |

A reconciliation of the change in the UAL from the prior year is shown below:

## Change In Unfunded Actuarial Accued Liability

Unfunded Liability - June 30, 2012
\$ 10,955,670,910

| Interest on Unfunded Liability | $\$$ | $903,842,850$ |
| :--- | :---: | :---: |
| Employer Amortization Payment | $(919,796,518)$ |  |
| Contribution Variance | $11,400,601$ |  |
| Net Investment Experience Gain ${ }^{1}$ | $(588,100,617)$ |  |
| Other Experience Gain | $(54,510,474)$ |  |
| Experience Account Allocation | $219,736,906$ |  |
| Assumption Changes (discount rate) | $580,606,082$ |  |
| Assumption Changes (experience study changes) | $291,075,809$ |  |
| Asset Valuation Method Change | $(51,373,196)$ |  |

Total Change
392,881,444

Unfunded Liability - June 30, 2013
\$ 11,348,552,354

The aggregate employer contribution rate established by the Public Retirement Systems' Actuarial Committee for the 2013/2014 plan year was $27.1 \%$. The restated employer contribution rate determined by this valuation for the 2013/2014 plan year is $27.3 \%$. Therefore, an employer contribution deficit of $0.2 \%$ is expected in next year's valuation.

## Legislative/Plan Changes

Act 483 of 2012 created a cash balance plan for all Higher Education members whose first employment for membership in a state retirement system affected by the Act occurred on or after July 1, 2013. The plan was suspended to July 1, 2014, during the 2013 legislative session. On June 28, 2013, the Louisiana Supreme Court ruled that the plan enacted in 2012 required a two-thirds vote of the legislature, which did not occur, so was unconstitutional. Given the Supreme Court's ruling, the plan will not take effect.

## Actuarial Assets/Valuation Assets

Because the market value of assets can be volatile from one year to the next, an asset valuation method is generally used to adjust the market value of assets to smooth the effects of short-term volatility. The adjusted asset value is called the actuarial value of assets. The Board adopted a change in the asset valuation method, effective for the June 30, 2013 valuation. The method changed from smoothing (or gradually recognizing) unrealized appreciation/depreciation over four years to smoothing investment gains/losses relative to the assumed rate over five years. Under the current method, an increase in asset turnover may cause a significant change in the actuarial value of assets. The change was recommended in order to eliminate this aspect, to decrease contribution rate volatility even more so than current method by smoothing over five years rather than four, to bring continuity between other Louisiana State and Statewide retirement systems that have recently changed to this method, and to allow for better prediction of the impact of changes in funding requirements due to investment results.

The net increase in the actuarial value of assets due to the change in method, after adjusting for excess interest to be credited to DROP accounts, is $\$ 51,373,196$. If the change had not occurred, this increase in assets would have been recognized gradually over the next 3 years. Since the increase in assets is accelerated recognition of prior year's investment experience gains/losses not yet recognized, a portion of this change will be allocated to the experience account. This change, less the portion allocated to the Experience Account, will be amortized over 30 years with level payments.

The gross actuarial assets represent the total assets to fund all liabilities of the pension plan as well as side-fund accounts dedicated for other purposes. The valuation assets exclude the side-fund accounts for purposes of determining the employer contribution rate as illustrated in Exhibit 2.

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

- Employer Credit Account: This account, established by Act 588 of 2004, is credited with the excess of the contributions at the statutory minimum rate of $15.5 \%$ over the Actuarially Required Contribution (ARC). The account continues to have a zero balance.
- LSU Agriculture and Extension Service Fund: Participants of the LSU Agriculture and Extension Service receive supplement 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 actuarial value of assets. The current balance is $\$ 1,322,042$.
- Experience Account Fund: The account is used to fund permanent benefit increases for retirees. Fifty percent of any excess return above $\$ 200,000,000$ will be credited to the Experience Account. The benefit increase granted must be funded at $100 \%$ of the actuarial cost. The account balance is restricted to the reserve for two permanent benefit increases. The current balance of the fund is $\$ 219,736,906$, the value of the allocation on June 30, 2013.


## Plan Experience

The actuary is charged with recommending actuarial assumptions based on the best estimate of future plan experience to properly fund future benefits. These assumptions, which are adopted by the Board of Trustees, are detailed in Exhibit 6 of the valuation report. The results of the actuarial valuation are dependent on the actuarial assumptions used. 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. If the actual experience differs from the projected experience, a gain or loss occurs. This gain or loss is then amortized over a thirty year period with level dollar payments.

## Economic/Investment Experience

For the plan year ending June 30, 2013, the realized actuarial rate of return of $13.41 \%$ exceeded last year's assumed rate of $8.25 \%$, used to discount benefits. This return is based upon the June 30, 2013 actuarial value of assets, which includes the change in asset valuation method. Therefore, the actuarial rate of return includes investment returns recognized in the prior plan year due to the change in method. The result was a net investment experience gain of $\$ 588,100,617$ relative to projected investment income, based on the actuarial value of assets prior to changing the asset valuation method. The additional net gain of $\$ 51,373,196$ due to the method change, after adjusting for the experience account allocation, will be amortized as a separate base. Both gains are net of the interest to be credited to DROP accounts.

Per Act 497, if the actuarial return exceeds the assumed rate, the first $\$ 100,000,000$ of investment gains will be used to reduce and re-amortize the OAB. The next $\$ 100,000,000$ of investment gains will be used to reduce and re-amortize the EAAB. Fifty percent of any additional excess return is credited to the Employee Experience Account. Therefore, the investment experience gains described above, less the portion allocated to the Experience Account, will be amortized over 30 years with level payments.

The historical geometric average rates of return on the actuarial value of assets, net of investment expenses, for plan years ending June 30 are as follows:

|  | Actuarial Rate <br> of Return | Geometric <br> Average |  |
| ---: | ---: | ---: | :---: |
| 2009 | $-12.31 \%$ | 5 Year | $1.96 \%$ |
| 2010 | $-0.89 \%$ | 10 Year | $6.42 \%$ |
| 2011 | $6.44 \%$ | 20 Year | $7.30 \%$ |
| 2012 | $5.05 \%$ | 25 Year | $7.93 \%$ |
| 2013 | $13.41 \%$ | 30 Year | $8.54 \%$ |

## Demographic Experience and Salary Assumptions

Demographic assumptions include rates of retirement/DROP, rates at which members become disabled, turnover rates, mortality rates, and several other demographic assumptions. Salary assumptions anticipate future salary increases. During the 2012/2013 plan year, the system incurred an experience gain of $\$ 54,510,474$ from plan experience differing from that anticipated by the demographic and salary assumptions.

## Assumption Changes:

In addition to experience gains or losses, changes in actuarial assumptions or methods can also impact contribution rates. The change in the discount rate from $8.25 \%$ to $8.00 \%$ increased plan liabilities by $\$ 580,606,082$. A five year experience study was completed in April 2013 based on TRSL's experience through June 30, 2012. All demographic assumptions and salary assumptions were reviewed relative to recent plan experience. As a result of this study, changes to the actuarial assumptions were recommended to the Board of Trustees and adopted. All changes are described in Exhibit 6 of this report. The change in assumptions resulting from the experience study increased plan liabilities by $\$ 291,075,809$. The combined effect of all assumption changes is an increase in plan liabilities of $\$ 871,681,891$, which impacts the UAL by the same amount. This change will be amortized with 30 year level dollar payments.

## Funding of Administrative and Investment Expenses

The employer contribution rate is determined in accordance with R.S. 11 Section 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 are instead funded through the employer rate with the 30 year amortization of the experience loss.

Investment manager fees are treated as a direct offset to investment income.

## Funding of Future Post Retirement Benefit Increases

The liability for previously granted benefit increases is included in the retiree reserve. 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 earning 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 Exhibit 5 of this report. The legislature has the ultimate authority as to whether or not 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 expenses and the expected return used to provide for future retiree benefit increases. The expected return used to determine the value of gain-sharing reflects TRSL specific gain sharing provisions: $50 \%$ of investment gains, determined using the actuarial value of assets, above the statutory hurdle of $\$ 200$ million. While the liabilities in this report do not explicitly include liabilities for future retiree benefit increases, the assumptions recognize that investment earnings will be diverted to fund benefits other than plan accrued benefits. Therefore, the employer contributions include the value of TRSL provisions for future retiree benefit increases. This disclosure is provided in accordance with Actuarial Standards of Practice No. 4.

## Future Funding as a Percentage of Payroll

The employer pays a percentage of the normal cost, excluding administrative expenses, plus a dollar amount sufficient to amortize the unfunded liability. Per 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 $15.5 \%$.

## Normal Cost

Act 992 of 2010 revised benefits for TRSL members (excluding Lunch Plan members) whose first employment makes them eligible for membership in a Louisiana State retirement system on or after January 1, 2011. These members are eligible for regular retirement after attaining age sixty with at least five years of service credit and eligible for disability retirement after accruing ten years of service credit, a change from the five year requirement for all other members. Final average compensation is based on the highest sixty months, versus thirty-six months for all other member. Membership in this plan will gradually increase as current members retire or terminate service and new members enroll. The ultimate expected normal cost rate reduction, once all members are enrolled in the new plan, is $1.30 \%$ of pay. The savings will be realized gradually as the membership in this plan increases.

## UAL Payments

Future payments to amortize the Original Amortization Base (which includes the Initial Unfunded Accrued Liability), the Experience Account Amortization Base will increase as shown in the following table, as required by Act 497 of 2010. All other schedules will have level payments.

| Plan Year |  | Original <br> Amortization Base |  |
| :---: | :---: | :---: | :---: |
| Experience Account <br> Amortization Base |  |  |  |
| $2013 / 2014$ | $7.0 \%$ |  | $7.0 \%$ |
| $2014 / 2015-2017 / 2018$ |  | $6.5 \%$ |  |
| $2018 / 2019+$ | $2.0 \%$ |  | Level Payments |

If aggregate payroll increases at the same rate as the increase in amortization payments, this would allow the employer contribution rate attributable to the amortization payments to maintain a level percentage of payroll. The aggregate UAL payments for all schedules is shown in exhibit 7-C.

## EXHIBIT 1

## DEVELOPMENT OF

## COSTS, LIABILITIES AND CONTRIBUTIONS

Normal Costs and Accrued Liabilities are calculated in accordance with the Projected Unit Credit Actuarial Cost Method, and the Actuarial Assumptions outlined in Exhibit 6 based on the Provisions of the Plan as summarized in Exhibit 5.

| June 30, 2013 | ---- Prior Year ---- <br>  <br>  <br> Dollar Amount 30, 2012 <br> \% of <br> Salary | Dollar Amount |
| :---: | :---: | :---: | | \% of |
| :---: |
| Salary |

## I. Normal Costs (annual pension accruals)

Active Members with Complete Data
a) Retirement Benefits
b) Disability Benefits
c) Survivor Benefits
d) Voluntary Termination
e) Expenses ${ }^{1}$

TOTAL

| $376,149,702$ | $10.09 \%$ | $400,168,156$ | $10.51 \%$ |
| ---: | ---: | ---: | ---: |
| $12,346,039$ | $0.33 \%$ | $13,636,985$ | $0.36 \%$ |
| $9,953,472$ | $0.27 \%$ | $11,373,584$ | $0.30 \%$ |
| $86,691,214$ | $2.33 \%$ | $77,565,043$ | $2.04 \%$ |
| 0 | $0.00 \%$ | $18,400,000$ | $0.48 \%$ |
| $485,140,427$ | $13.02 \%$ | $521,143,768$ | $13.68 \%$ |

II. Actuarial Accrued Liability
a) Active Members

1) Retirement Benefits

| $6,089,231,315$ | $6,196,601,462$ |
| ---: | ---: |
| $142,775,895$ | $166,406,007$ |
| $117,858,857$ | $136,903,174$ |
| $593,646,964$ | $529,779,407$ |
| $6,943,513,031$ | $7,029,690,050$ |

b) Retired and Inactive Members

1) Regular Retirees

| $14,316,669,060$ | $12,579,520,901$ |
| ---: | ---: |
| $381,873,693$ | $362,653,262$ |
| $880,416,660$ | $789,779,038$ |
| $257,044,615$ | $417,025,887$ |
| $118,843,083$ | $119,287,734$ |
| $1,970,606,145$ | $2,083,175,860$ |
| $1,148,742,017$ | $1,158,947,138$ |
| $19,074,195,273$ | $17,510,389,821$ |

c) Total
26,017,708,304
$24,540,079,871$

[^0]
## Exhibit 1 (Continued)

## Costs, Liabilities \& Contributions

|  | June 30, 2013 | --- Prior Year ---- June 30, 2012 |
| :---: | :---: | :---: |
| II. Actuarial Accrued Liability | 26,017,708,304 | 24,540,079,871 |
| III. Valuation Assets | 14,669,155,950 | 13,584,408,961 |
| IV. Unfunded Actuarial Accrued |  |  |
| Liabilities - Projected Unit Credit ${ }^{1}$ | 11,348,552,354 | 10,955,670,910 |
| a) Change over prior year | 392,881,444 | 145,212,013 |
| b) Funded Percentage | 56.4\% | 55.4\% |
| V. Employer Contributions |  |  |
| To Fund Current Plan Year ${ }^{1}$ |  |  |
| a) Employer Portion of Normal Cost | 190,977,962 | 204,246,255 |
| b) Amortization Payments | 911,127,344 | 858,114,105 |
| c) Prior Contribution Variance | 53,588,666 | 25,937,890 |
| Total Required Contribution | 1,155,693,972 | 1,088,298,250 |
| Total Contribution Rate | 27.3\% | 25.0\% |
| PERSAC Approved rate ${ }^{1}$ | 27.1\% | 24.5\% |
| Aggregate Employer Normal Cost Rate | 5.0371\% | 5.2166\% |
| VI. Projected Employer Contributions |  |  |
| a) Employer Portion of Normal Cost | 196,882,998 | 230,715,099 |
| b) Amortization Payments | 944,321,418 | 923,067,377 |
| c) Prior Contribution Variance | 67,531,997 | 57,288,938 |
| Total Required Contribution | 1,208,736,413 | 1,211,071,414 |
| Total Contribution Rate | 27.7\% | 27.1\% |
| Projected Aggregate Employer Normal Cost Rate | 5.0371\% | 5.7423\% |
| VII. Current Payroll | 3,726,325,750 | 3,808,760,594 |
| Projected Payroll - Mid Year | 3,791,250,659 | 3,915,342,521 |
| Projected Payroll - Next Year | 3,908,476,069 | 4,017,843,743 |
| ORP - Salary Adjustment Factor ${ }^{2}$ | 1.14051 | 1.14345 |

[^1]
## EXHIBIT 2

FINANCIAL SUMMARY

## STATEMENT OF REVENUES AND EXPENSES <br> FOR FISCAL YEAR ENDING

----- Prior Years -----
June 30, 2013 June 30, $2012 \quad$ June 30, 2011

## OPERATING REVENUES:

1. Contribution Income

| Member | $\$$ | $327,767,936$ | $\$$ | $333,908,454$ |
| :--- | ---: | ---: | ---: | ---: |

2. Investment Income

| Investments | $1,787,459,766$ | $-25,752,161$ | $2,975,945,440$ |
| :--- | ---: | ---: | ---: |
| Less Advisor Fees | $-32,476,075$ | $-30,488,685$ | $-29,952,344$ |
| TOTAL INVESTMENT INCOME | $1,754,983,691$ | $-56,240,846$ | $2,945,993,096$ |
|  |  |  |  |
| Total Revenues | $3,178,234,393$ | $1,362,305,339$ | $4,231,995,366$ |

## OPERATING EXPENSES:

| 1. General Administration $^{1}$ | $17,284,820$ | $18,424,626$ | $17,652,431$ |
| :--- | ---: | ---: | ---: |
| Other Expenses | 377,149 | 440,291 | 537,060 |

2. Benefits Paid

| a) Pension Benefits | $1,800,166,804$ | $1,682,528,254$ | $1,615,778,191$ |
| :--- | ---: | ---: | ---: |
| b) Return of Contrib. | $59,152,481$ | $49,139,028$ | $42,248,487$ |
| TOTAL BENEFITS PAID | $1,859,319,285$ | $1,731,667,282$ | $1,658,026,678$ |
| Total Expenses | $1,876,981,254$ | $1,750,532,199$ | $1,676,216,169$ |
|  |  |  |  |
| ET MARKET VALUE INCREASE: | $1,301,253,139$ | $-388,226,860$ | $2,555,779,197$ |

${ }^{1}$ The 2011, 2012, and 2013 General Administration operating expense includes $\$ 1,477,395, \$ 1,050,097$, and $\$ 974,146$ respectively for Other Post-Employment Benefits (OPEB).

## EXHIBIT 2 (Continued)

Financial Summary

## FINANCIAL SUMMARY <br> STATEMENT OF ASSETS <br> FOR FISCAL YEAR ENDING

| ASSETS: | June 30, 2013 |  | ----Prior Years--- |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | June 30, 2012 |  | June 30, 2011 |  |
| 1. Short Term Assets |  |  |  |  |  |  |
| Cash in Banks | \$ | 199,799,910 | \$ | 198,662,009 |  | 195,123,547 |
| Short Term Secutities |  | 1,005,978,360 |  | 884,290,767 |  | 738,220,668 |
| 2. Bonds |  |  |  |  |  |  |
| Domestic issues |  | 1,611,411,082 |  | 1,477,406,933 |  | 1,374,952,322 |
| Foreign Issues |  | 1,162,848,924 |  | 972,447,063 |  | 669,538,563 |
| 3. Equities (at market) |  |  |  |  |  |  |
| Domestic |  | 4,322,095,263 |  | 3,794,815,270 |  | 3,975,570,172 |
| International |  | 3,148,691,961 |  | 2,904,306,050 |  | 4,094,745,522 |
| Private Equity |  | 3,927,445,271 |  | 3,874,754,802 |  | 3,371,913,438 |
| 4. Other Assets |  |  |  |  |  |  |
| Fixtures/Properties |  | 4,027,869 |  | 4,148,693 |  | 4,298,781 |
| Receivables less Payables |  | 107,938,220 |  | 78,152,134 |  | 152,847,568 |
| TOTAL ASSETS - Market Value |  | 15,490,236,860 |  | 14,188,983,721 |  | 14,577,210,581 |
| Cost Value |  | 14,874,504,768 |  | 14,323,159,913 |  | 13,973,613,138 |

## ACTUARIAL VALUE OF ASSETS

The Board of Trustees adopted a new asset valuation method, effective June 30, 2013. The prior method of determining the actuarial value of assets was the market value of assets adjusted for a four year weighted average of the unrealized gain or loss in the value of all assets. Realized gains and losses were immediately recognized. The adjusted asset value was subject to Corridor Limits of $80 \%$ to $120 \%$ of the Market Value of Assets. Due to this method's differing treatment of realized and unrealized gains and losses, an increase in asset turnover may cause a significant change in the actuarial value of assets.

The recently adopted method adjusts the market value of assets to gradually recognize investment gains and losses relative to the net assumed investment return, 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.

## EXHIBIT 2 (Continued)

Financial Summary
ACTUARIAL VALUE OF ASSETS (Prior Method):

| ASSETS | June 30, 2013 |  | June 30, 2012 |  | June 30, 2011 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Market Value of Assets | \$ | 15,490,236,860 | \$ | 14,188,983,721 | \$14,577,210,581 |
| Change in Unrealized Appreciation: |  |  |  |  |  |
| Current Year -2 |  | 1,840,353,873 |  | 948,357,108 | (2,255,233,815) |
| Current Year -1 |  | $(737,773,635)$ |  | 1,840,353,873 | 948,357,108 |
| Current Year |  | 749,908,284 |  | (737,773,635) | 1,840,353,873 |
| Preliminary Actuarial Value of Assets | \$ | 14,836,603,996 | \$ | 13,585,047,734 | \$13,286,575,076 |
| CORRIDOR LIMITS |  |  |  |  |  |
| Minimum $=80 \%$ of Market Value |  | 12,392,189,488 |  | 11,351,186,977 | 11,661,768,465 |
| Maximum = 120\% of Market Value |  | 18,588,284,232 |  | 17,026,780,465 | 17,492,652,697 |
| Actuarial Value of Assets | \$ | 14,836,603,996 | \$ | 13,585,047,734 | \$13,286,575,076 |

## ACTUARIAL VALUE OF ASSETS (New Method, Effective 6/30/2013):

| Plan Year |  | Asset G/L | Deferred \% | Deferred \$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2010 | \$ | 382,530,364 | 20\% | \$ | 76,506,073 |
| 2011 |  | 1,970,321,330 | 40\% |  | 788,128,532 |
| 2012 |  | (1,245,166,296) | 60\% |  | (747,099,778) |
| 2013 |  | 603,108,919 | 80\% |  | 482,487,135 |
|  |  |  |  | \$ | 600,021,962 |
| Market Value of Assets |  |  |  | \$ | 15,490,236,860 |
| Deferred Asset G/L |  |  |  |  | 600,021,962 |
| Preliminary Actuarial Value of Assets |  |  |  | \$ | 14,890,214,898 |
| CORRIDOR LIMITS |  |  |  |  |  |
| Minimum $=80 \%$ of Market Value |  |  |  | \$ | 12,392,189,488 |
| Maximum $=120 \%$ of Market Value |  |  |  |  | 18,588,284,232 |
| Actuarial Value of Assets |  |  |  | \$ | 14,890,214,898 |
| Actuarial Value of Assets - Prior Method |  |  |  | \$ | 14,836,603,996 |
| Actuarial Value of Assets - New Method |  |  |  | \$ | 14,890,214,898 |
| Change in AVA due to Change in Method |  |  |  | \$ | 53,610,902 |

INVESTMENT YIELD $\quad$ June 30, 2013 June 30, 2012 June 30, 2011

| Yield to Actuarial Value | $13.41 \%$ | $5.05 \%$ | $6.44 \%$ |
| :--- | :---: | :---: | :---: |
| Five Year Actuarial Value $^{1}$ | $1.96 \%$ | $0.43 \%$ | $2.30 \%$ |
| Yield to Market Value | $12.79 \%$ | $-0.32 \%$ | $25.55 \%$ |
| DROP Account Yield | $12.91 \%$ | $4.55 \%$ | $5.94 \%$ |

[^2]
## EXHIBIT 2 (Continued)

## Financial Summary

## FINANCIAL SUMMARY <br> STATEMENT OF ASSETS FOR FISCAL YEAR ENDING

---- Prior Years ----

|  | June 30, 2013 |  | June 30, 2012 |  | June 30, 2011 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| EMPLOYER CREDIT ACCOUNT ${ }^{1}$ : |  |  |  |  |  |  |
| Prior Year Ending Balance | \$ | - | \$ | - | \$ | - |
| + Contributions |  | - |  | - |  | - |
| - Disbursements |  | - |  | - |  | - |
| + Accumulated Interest |  | - |  | - |  | - |
| Account Balance - Year End |  | - |  | - | - | - |
| LSU AG/EXT SERVICE: |  |  |  |  |  |  |
| Prior Year Ending Balance | \$ | 638,773 | \$ | 280,197 | \$ | 107,621 |
| + Contributions |  | 2,059,554 |  | 1,903,781 |  | 1,761,453 |
| - Benefit Disbursements |  | 1,632,154 |  | 1,615,226 |  | 1,656,739 |
| + Accumulated Interest |  | 255,869 |  | 70,021 |  | 67,862 |
| Account Balance - Year End |  | 1,322,042 |  | 638,773 |  | 280,197 |

## EXPERIENCE ACCOUNT FUND:

|  | Prior Year Ending Balance | $\$$ | - | $\$$ | - |
| :--- | ---: | ---: | ---: | ---: | :---: |
| + | Experience Account Allocation |  | $219,736,906$ |  | - |
| - | Benefit Disbursements | - | - | - |  |
| + | Accumulated Interest | - | - | - |  |
| Fund Balance - Year End |  | - | - |  |  |

## DEVELOPMENT OF

VALUATION ASSETS:
Actuarial Value of Assets $\quad 14,890,214,898 \quad \$ 13,585,047,734 \quad \$ 12,868,591,177$

- Employer Credit Account
- LSU Ag/Ext Service Account 1,322,042 638,773 107,621
- Experience Account Fund

219,736,906
Valuation Assets
14,669,155,950
13,584,408,961
$12,868,483,556$

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

## EXHIBIT 3

## PENSION ACCOUNTING AND FINANCIAL DISCLOSURE

The Governmental Accounting Standards Board (GASB) was established as an arm of the Financial Accounting Foundation in April, 1984 by amendment to the Foundation's certificate of incorporation and by-laws. GASB's objective is to promulgate standards of financial accounting and reporting relative to the activities and transactions of state and local governmental entities. The following disclosures and statistical tables are in accordance with the GASB's Statement No. 25.
(Dollar amounts in thousands)

| Actuarial <br> Valuation <br> Date | Actuarial <br> Value of <br> Assets ${ }^{1}$ <br> (a) | Actuarial Accrued Liability (AAL) <br> (b) | $\begin{aligned} & \text { Unfunded } \\ & \text { AAL } \\ & \text { (UAAL)² } \\ & \text { (b-a) } \\ & \hline \end{aligned}$ | Funded Ratio (a/b) | Covered Payroll (c) | UAAL as a Percentage of Payroll (b-a)/(c) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2004 | 11,409,404 | 18,067,486 | 6,658,082 | 63.1\% | 3,017,087 | 220.7\% |
| 2005 | 12,082,682 | 18,699,765 | 6,617,083 | 64.6\% | 3,132,169 | 211.3\% |
| 2006 | 13,088,358 | 19,390,781 | 6,302,423 | 67.5\% | 2,892,959 | 217.9\% |
| 2007 | 14,812,298 | 20,772,330 | 5,960,032 | 71.3\% | 3,224,566 | 184.8\% |
| 2008 | 15,507,834 | 22,090,516 | 6,582,683 | 70.2\% | 3,675,014 | 179.1\% |
| 2009 | 13,500,766 | 22,839,411 | 9,338,645 | 59.1\% | 3,912,326 | 238.7\% |
| 2010 | 12,868,484 | 23,674,842 | 10,806,358 | 54.4\% | 3,977,819 | 271.7\% |
| 2011 | 13,286,295 | 24,096,754 | 10,810,459 | 55.1\% | 3,902,647 | 277.0\% |
| 2012 | 13,584,409 | 24,540,080 | 10,955,671 | 55.4\% | 3,808,761 | 287.6\% |
| 2013 | 14,669,156 | 26,017,708 | 11,348,552 | 56.4\% | 3,726,326 | 304.6\% |

The total actuarial accrued liability, determined using the Projected Unit Credit cost method, increased by $\$ 1,477,628,433$ from June 30, 2012, to June 30, 2013. There was a net experience gain to the fund from all sources of $\$ 693,984,286$. This includes the increase in assets due to the change in asset valuation method. A portion of the increase in assets due to investment earnings was allocated to the Experience Account rather than to reduce the unfunded actuarial accrued liability. See page 4 for complete allocation of change in UAAL.
${ }^{1}$ The Actuarial Value of Assets for GASB reporting includes the Employer Credit Account Assets, if any, in the Valuation Assets (see page 12).
${ }^{2}$ UAAL differs from the UFAL for funding purposes. UFAL for funding purposes excludes the Initial UAL Amortization Fund Assets and the Employer Credit Account Assets (see page 12).

## EXHIBIT 3 (Continued)

## Pension Accounting \& Financial Disclosure

## SCHEDULE OF EMPLOYER CONTRIBUTIONS

| Fiscal | Actuarial <br> Required <br> Year | Percentage of <br> Contribution | ARC <br> Contributed | Annual <br> Pension Cost <br> (APC) | Actual <br> Contribution | Percentage <br> of APC <br> Contributed |
| :---: | :---: | ---: | :---: | ---: | ---: | ---: | | Net Pension |
| :---: |
| Obligation |

The percentage of ARC contributed provides a general indication of the funding progress for the liabilities of the Teachers' Retirement System of Louisiana. However, it should be noted that employers pay $100 \%$ of the required contribution based on a percentage of pay, which is determined following statutory requirements. The employer contribution rate is projected one year beyond the rate for which the ARC is determined. The resulting contribution variance between the ARC and the required employer rate can be either a credit or deficit. If it is a deficit, the deficit is amortized with level dollar payments over a five year period and paid through future employer contributions. If it is a surplus, the surplus is used to reduce and re-amortize the existing UAL schedules.

The Actuarial Required Contribution and the Annual Pension Cost are interest adjusted at the valuation rate to the end of the fiscal year. Calculations are in accordance with GASB's Statement No 27, paragraph 21. Amortization of the Net Pension Obligation is shown in Exhibit A-1.

## DEVELOPMENT OF NET PENSION OBLIGATION:

(1) Actuarial Required Contribution
(2) Interest on Net Pension Obligation
(3) Amortization of Net Pension Obligation
(4) Annual Pension Cost (1)+(2)-(3)
(5) Employer Contribution
(6) Increase (decrease) in Net Pension Obligation
(7) Net Pension Obligation Beginning of Year
(8) Net Pension Obligation End of Year (6)+(7)

1,149,134,132
11,575,614
26,986,626
1,133,723,120
1,137,733,532
-4,010,412
140,310,456
136,300,044

## EXHIBIT 3 (Continued)

## Pension Accounting \& Financial Disclosure

## STATISTICAL DATA <br> COMPARATIVE SUMMARY OF REVENUES BY SOURCE AND EXPENSES BY TYPE

| Revenues by Source |  |  |  |  |
| :---: | :---: | :---: | ---: | :--- |
| Fiscal <br> Year | Members <br> Contribution | Employer <br> Contribution $^{1}$ | Investment <br> Income | Total |
| 2004 | $264,999,131$ | $479,348,663$ | $1,741,769,825$ | $2,486,117,619$ |
| 2005 | $270,619,181$ | $564,922,509$ | $1,138,249,695$ | $1,973,791,385$ |
| 2006 | $258,412,024$ | $579,277,431^{2}$ | $1,740,872,434$ | $2,578,561,889$ |
| 2007 | $282,326,101$ | $593,819,853$ | $2,622,473,864$ | $3,498,619,818$ |
| 2008 | $323,678,452$ | $753,661,042^{3}$ | $-793,655,054$ | $283,684,440$ |
| 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 | $327,767,936$ | $1,095,482,766$ | $1,754,983,691$ | $3,178,234,393$ |


| Expenses by Type |  |  |  |  |
| :---: | :--- | :--- | ---: | :--- |
| Fiscal <br> Year | Benefits | Refunds | Administrative <br> Expenses | Total |
| 2004 | $1,075,298,667$ | $26,714,645$ | $11,385,025$ | $1,113,398,337$ |
| 2005 | $1,139,814,334$ | $30,391,992$ | $12,717,185$ | $1,182,923,511$ |
| 2006 | $1,204,472,977$ | $38,556,907$ | $13,831,845$ | $1,256,861,729$ |
| 2007 | $1,295,552,338$ | $47,579,251$ | $14,370,760$ | $1,357,502,349$ |
| 2008 | $1,383,381,577$ | $34,285,358$ | $18,498,003^{4}$ | $1,436,164,938$ |
| 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 | $1,682,528,254$ | $49,139,028$ | $18,864,917$ | $1,750,532,199$ |
|  |  | $59,152,481$ | $17,661,969$ | $1,876,981,254$ |

[^3]
## EXHIBIT 4

## CENSUS DATA

## GENERAL COMMENTS

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 base. Our review of submitted information is limited to validation of reasonableness and consistency in several areas, such as age, service, salary, and current benefits. In order to minimize coverage errors (i.e., missing or duplicated individual records) the records are checked for duplicates, and a comparison of the current year's records to those submitted in prior years is made. Records identified as containing suspicious data were assumed to possess the same characteristics of "good data" in the same cohort. Suspicious data are not necessarily errors, but data which fall outside the parameters of the editing process for further checking. The assigned values are based on information from similar records or based on historical averages for similarly situated members. 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 with exceptions noted below. The profile depicted in the cellular graphs represents "error-free data," which serves as the basis for determining costs and liabilities. Active members are allocated to cells based upon attained age and years of service. Retirees and survivors are allocated to cells based upon attained age and years elapsed since retirement or commencement of benefits.

The June 30, 2012 Terminated Vested status is overstated. It contains a number of retirement and DROP applications awaiting final certification.

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.

Salary data contained in the profiles and valuation report exceed the sums reported by internal audit due to salary annualization. In the valuation process, membership data with fractional service in the first year of employment annualizes the salary.

The following is a summary by plan of the data submitted for valuation:

|  | 2013 |  | 2012 |  |
| :--- | ---: | ---: | ---: | ---: |
| Active Members | Census | Avg. Salary | Census | Avg. Salary |
| Regular Teachers $^{1}$ | 69,832 | 43,158 | 70,816 | 43,196 |
| Higher Education $^{1}$ | 8,807 | 58,669 | 8,980 | 58,671 |
| Lunch Plan A | 22 | 22,442 | 46 | 22,616 |
| Lunch Plan B | 1,187 | 18,534 | 1,220 | 18,906 |
| Post DROP | 3,062 | 56,613 | 3,451 | 57,615 |
| Total | 82,910 | 44,945 | 84,513 | 45,067 |

[^4]
## EXHIBIT 4 (Continued)

Census Data

| Retired and Inactive Members | $\mathbf{2 0 1 3}$ <br> Census | $\mathbf{2 0 1 2}$ <br> Census |
| :--- | ---: | ---: |
| Regular Retirees ${ }^{1}$ | 60,714 | 57,619 |
| Disability Retirees | 4,049 | 3,993 |
| Survivors | 6,268 | 6,045 |
| DROP Participants | 2,451 | 2,637 |
| Vested \& Reciprocals | 5,991 | 6,439 |
| Inactive Non-Vested (Due Refunds) | 18,355 | 18,069 |
| Total Retired and Inactive | 97,828 | 94,802 |
| Total Members | 180,738 | 179,315 |
| Less Inactive Non-Vested (Due Refunds) | $-18,355$ | $-18,069$ |
| Total Active and Vested Inactive Members | 162,383 | 161,246 |

MEMBER RECONCILIATION

|  | Active (Pre-DROP) | Active after DROP | Terminated Vested | In DROP | Retired, Disabled, Survivor | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| June 30, 2012 Valuation | 81,062 | 3,451 | 6,439 | 2,637 | 67,657 | 161,246 |
| Adjustment for 2012 Pending Status ${ }^{1}$ | (386) | (16) | (990) | 691 | 695 | (6) |
| June 30, 2012 Adjusted | 80,676 | 3,435 | 5,449 | 3,328 | 68,352 | 161,240 |
| Additions to Census |  |  |  |  |  |  |
| Newly Hired Members | 7,127 |  | 69 |  |  | 7,196 |
| Change in Status |  |  |  |  |  |  |
| New Regular Retirees <br> New Disability Retirees <br> New Survivors <br> Active to Terminated Vested <br> Active to DROP <br> Terminated Vested to Active <br> Disability to Active <br> Disability to Term Vested <br> DROP to Active After DROP | $\begin{array}{r} (2,049) \\ (171) \\ (40) \\ (1,509) \\ (421) \\ 395 \\ 1 \end{array}$ | (930) <br> (4) <br> 568 | $\begin{array}{r} (183) \\ (21) \\ (9) \\ 1,509 \\ (395) \\ 2 \end{array}$ | (723) <br> (1) <br> 421 <br> (568) | $\begin{array}{r} 3,885 \\ 192 \\ 54 \\ \\ \\ \text { (1) } \\ (2) \end{array}$ | 0 0 0 0 0 0 0 |
| Eliminated from Census |  |  |  |  |  |  |
| Refunded or Due Refund Deceased | $\begin{array}{r} (4,073) \\ (30) \\ \hline \end{array}$ | (9) | $\begin{array}{r} (409) \\ (20) \\ \hline \end{array}$ | (5) | $(1,466)$ | $\begin{aligned} & (4,482) \\ & (1,530) \\ & \hline \end{aligned}$ |
| Data Revisions | (58) | 2 | (1) | (1) | 17 | (41) |
| June 30, 2013 Valuation | 79,848 | 3,062 | 5,991 | 2,451 | 71,031 | 162,383 |

[^5]| MEMBERSHIP PROFILE | TRS RETIREMENT SYSTEM |
| :--- | :--- |
| CATEGORIZED BY AGE AND YEARS EMPLOYED | ALL ACTIVE MEMBERS |
| CELLS DEPICT $-\quad$ MEMBER COUNT |  |
|  | TOTAL SALARY |


| :Age/Years: | (0-1) | [1-5) | [5-10) | [10-15) | [15-20) | [20-25) | [25-30) | [30-35) | [35- ) | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| : |  |  |  |  |  |  |  |  |  | : |
| . |  |  |  |  |  |  |  |  |  | : |
| :[ 0 - 19): | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| : | 18318 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18318 |
| : |  |  |  |  |  |  |  |  |  | : |
| : : |  |  |  |  |  |  |  |  |  | : |
| :[20-24): | 803 | 821 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 1632 |
| [20-24): | 35086746 | 32585093 | 199177 | 0 | 0 | 0 | 0 | 0 | 0 | 67871016 |
| : |  |  |  |  |  |  |  |  |  | : |
| : : |  |  |  |  |  |  |  |  |  | : |
| :[25-29): | 1137 | 4327 | 1577 | 2 | 0 | 0 | 0 | 0 | 0 | 7043 |
| : | 48832351 | 177332121 | 67566170 | 41326 | 0 | 0 | 0 | 0 | 0 | :293771968 |
| : |  |  |  |  |  |  |  |  |  | : |
| : |  |  |  |  |  |  |  |  |  | : |
| :[30-34): | 898 | 3166 | 4831 | 1242 | 2 | 0 | 0 | 0 | 0 | 10139 |
| : | 38024353 | 125198095 | 212602698 | 60086061 | 50041 | 0 | 0 | 0 | 0 | :435961248 |
| : |  |  |  |  |  |  |  |  |  | : |
| : |  |  |  |  |  |  |  |  |  | : |
| :[35-39): | 698 | 2324 | 3370 | 3577 | 834 | 1 | 0 | 0 | 0 | 10804 |
| : | 30087906 | 92518075 | 142746591 | 178244537 | 44168982 | 48299 | 0 | 0 | 0 | :487814390 |
| : |  |  |  |  |  |  |  |  |  | : |
| : : |  |  |  |  |  |  |  |  |  | : |
| :[40-44): | 562 | 2053 | 2898 | 2579 | 3172 | 850 | 2 | 0 | 0 | 12116 |
| : | 22886034 | 79477422 | 114789280 | 121988817 | 168547710 | 47662881 | 70645 | 0 | 0 | :555422789 |
| : |  |  |  |  |  |  |  |  |  | : |
| : : |  |  |  |  |  |  |  |  |  | : |
| :[45-49): | 400 | 1630 | 2477 | 2077 | 1997 | 2294 | 851 | 2 | 0 | 11728 |
|  | 16092730 | 62430895 | 91331931 | 85577304 | 95929486 | 126615282 | 48077704 | 82236 | 0 | :526137568 |
| : |  |  |  |  |  |  |  |  |  | : |
| : : |  |  |  |  |  |  |  |  |  | : |
| :[50-54): | 347 | 1179 | 1981 | 1935 | 2127 | 1788 | 1891 | 94 | 1 | 11343 |
| : | 14230112 | 44044193 | 72560307 | 75632456 | 90884805 | 89100360 | 108184586 | 5760965 | 45038 | :500442822 |
| : |  |  |  |  |  |  |  |  |  | : |
| : : |  |  |  |  |  |  |  |  |  | : |
| :[55-59): | 227 | 899 | 1555 | 1568 | 1817 | 1781 | 360 | 175 | 54 | 8436 |
| : | 9644295 | 34878674 | 59085288 | 63752889 | 76150391 | 83058606 | 19729790 | 12917849 | 4228498 | : 363446280 |
| : |  |  |  |  |  |  |  |  |  | : |
| : : |  |  |  |  |  |  |  |  |  | : |
| :[60-64): | 119 | 492 | 935 | 667 | 841 | 990 | 282 | 152 | 70 | : 4548 |
|  | 5419384 | 21997392 | 37899247 | 29769748 | 37238531 | 48244231 | 16878132 | 11911857 | 5427932 | : 214786455 |
| : |  |  |  |  |  |  |  |  |  | , |
| , |  |  |  |  |  |  |  |  |  | : |
| :[65-69): | 27 | 155 | 284 | 222 | 246 | 250 | 208 | 103 | 55 | 1550 |
| : | 1349983 | 6451177 | 12085198 | 10254762 | 11215340 | 12042769 | 12267722 | 8497255 | 5287090 | : 79451296 |
| : |  |  |  |  |  |  |  |  |  | : |
| . |  |  |  |  |  |  |  |  |  | : |
| :[70-74): | 8 | 55 | 87 | 66 | 54 | 61 | 65 | 58 | 54 | : 508 |
| : | 302898 | 2303605 | 3133278 | 2968177 | 2141543 | 3667371 | 4466366 | 4146839 | 4722974 | : 27853051 |


| $:$ | Total | $:$ | 5227 | 17101 | 20003 | 13935 | 11090 | 8015 | 3659 | 584 | 234 | $:$ | 79848 | $:$ |
| :--- | :--- | :--- | :--- | :--- | :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| $:$ | $: 221975110$ | 679216742 | 813999165 | 628316077 | 526326829 | 410439799 | 209674945 | 43317001 | 19711532 | $: 3552977200:$ |  |  |  |  |
| $:$ | $:$ |  |  |  |  |  |  |  |  |  |  |  |  |  |


| AVERAGES $--\quad$ Attained Age | 44.36 |  |
| :---: | :---: | :--- | ---: |
|  | Service Years | 10.85 |
|  | Active Salary | 44,497 |



| Total | : 4043 | 14028 | 17422 | 12689 | 10378 | 7488 | 3294 | 370 | 120 | 69832 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | :161402136 | 528618272 | 682283741 | 559535662 | 489396474 | 378542700 | 183034500 | 22650104 | 8325744 | : 3013789333 : |
|  | : |  |  |  |  |  |  |  |  | : |


| AVERAGES --- | Attained Age | 44.05 |
| ---: | :--- | :--- | ---: |
|  | Service Years | 11.15 |
|  | Active Salary | 43,158 |



$$
\begin{array}{cclr}
\text { AVERAGES }--- & \text { Attained Age } & 45.85 \\
& \text { Service Years } & 8.51 \\
& \text { Active Salary } & 58,669
\end{array}
$$



[^6]

[^7]

| AVERAGES --- | Attained Age | 62.49 |
| :--- | :--- | :--- | ---: |
|  | Post Drop Years | 4.02 |
|  | Active Salary | 56,613 |
|  | Annual Benefit | 30,734 |




| AVERAGES --- | Attained Age | 70.15 |
| :--- | :--- | :--- | ---: |
|  | Years Retired | 12.01 |
|  | Annual Benefit | 24,522 |

REGULAR RETIREES


[^8]

[^9]

| AVERAGES --- | Attained Age | 57.46 |
| :--- | :--- | :--- | ---: |
|  | Years Retired | 1.60 |
|  | Annual Benefit | 33,457 |



[^10]
## EXHIBIT 5

## 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:

## EXHIBIT 5 (Continued)

## Plan Provisions

| Leave Earned Prior to $\mathbf{6 / 3 0 / 8 8}$ |  |
| :---: | :---: |
| Accumulated Sick <br> Days | Fraction of <br> 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 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Accumulated Sick Days (by Member Classification) |  |  |  | Fraction of Year |
| 9 Month | 10 Month | 11 Month | 12 Month | Credit |
| $10-18$ | $11-20$ | $12-22$ | $13-24$ | 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 |
| $109-126$ | $121-140$ | $133-14$ | $145-168$ | 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 401a(17) compensation limit.

## EXHIBIT 5 (Continued)

## Plan Provisions

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

| Years of Participation | \% of Earnings to <br> be Included |
| :---: | :---: |
| 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 Act 81 of the 1988 Legislative Session based on the Public Retirement Systems' Actuarial Committee's recommendation to the Legislature.

## NORMAL RETIREMENT BENEFIT:

## Eligibility and Benefit:

After submitting written application to the Board, members are eligible for the following:

1. Members whose first employment makes them eligible for membership in a Louisiana state retirement system on or after January 1, 2011 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.
2. 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.

## EXHIBIT 5 (Continued)

## Plan Provisions

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).
A. Annual benefit may not exceed $100 \%$ of average earnable compensation.
B. Legislator's benefit is calculated based on either Teacher's or Legislator's salary but not both - for new legislators (their option to choose); employee contribution to be $12 \%$ of either salary and expense allowance as legislator, not both.
C. 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 Service Code and related Federal Regulations as adjusted for inflation and form of benefit other than life annuity or qualified joint and survivor annuity for retirement ages as follows:

| Age | Maximum | Age | Maximum | Age | Maximum |
| :---: | :---: | :---: | :---: | :---: | ---: |
| 48 | $\$ 57,561$ | 56 | $\$ 116,851$ | 64 | 205,000 |
| 49 | 62,755 | 57 | 128,059 | 65 | 205,000 |
| 50 | 68,455 | 58 | 140,456 | 66 | 205,000 |
| 51 | 74,715 | 59 | 154,182 | 67 | 205,000 |
| 52 | 81,593 | 60 | 169,395 | 68 | 205,000 |
| 53 | 89,163 | 61 | 186,271 | 69 | 205,000 |
| 54 | 97,502 | 62 | 205,000 | 70 | 205,000 |
| 55 | 106,700 | 63 | 205,000 |  |  |

## POST RETIREMENT INCREASES:

Permanent benefit increases, previously referred to as cost of living adjustments, may be granted, with legislative approval, provided there are sufficient funds in the Experience Account to fully fund the increase on an actuarial basis. Beginning July 1, 2009, the Experience Account is credited with fifty percent of excess investment income above $\$ 200,000,000$. Excess investment income is investment income in excess of the actuarial valuation rate of $8.25 \%$ ( $8.00 \%$ beginning July 1, 2013). Balances in the experience account accrue interest at the average actuarial yield for the System portfolio. The Employee Experience Account balance is limited to the funds necessary to fund two such increases. The Experience Account is debited for the increase in actuarial accrued liability resulting from the increases.

## EXHIBIT 5 (Continued)

## Plan Provisions

If the actuarial rate of return for the prior plan year is at least $8.25 \%$, regardless of the actuarial valuation rate, the benefit increase is limited to the lesser of $3 \%$ or the increase in the CPI-U for the calendar year immediately preceding the increase. If the actuarial rate of return for the prior plan year is less than $8.25 \%$, regardless of the actuarial valuation rate, the increase is limited to the lesser of $2 \%$ or the increase in the CPI-U for the calendar year immediately preceding the increase, provided the System is at least $80 \%$ funded. If the actuarial rate of return for the prior plan year is less than the actuarial valuation rate and the System is not at least $80 \%$ funded, no increase can be granted.

Benefits are restricted to those retirees who have attained the age of 60 and have been retired for at least one year. The minimum age 60 for the receipt of a benefit increase does not apply to disability retirees. The increase shall be based on the first seventy thousand dollars of the retiree's annual benefit, indexed annually for years after 2001.

## 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).

## 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, but 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, and returns to active membership for at least three years starting no later than one year after recovery, then he shall be credited with one year of service for each year disabled for purposes of establishing benefit eligibility, but not for computation of benefits.

## EXHIBIT 5 (Continued)

## Plan Provisions

## SURVIVOR'S BENEFITS (Effective July 13, 1978):

## Eligibility and Benefit:

1. Surviving Spouse with minor children of an active member with 5 years of creditable service with at least 2 years earned immediately prior to death; or a member with 20 years of creditable 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 (not greater than 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, but resumes 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, spouse's benefit reverts to benefit in $B$, for eligible spouse.
2. Surviving Spouse without minor children of either an active member with 10 years of creditable service with at least 2 years earned immediately prior to death, or a member with 20 years of creditable 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.) Option 2 equivalent of accrued benefit based on actual service. Spouse's benefit payable for life. Benefits to spouse cease upon remarriage, but resumes 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. Beneficiary not eligible for 1 or 2 will receive return of member's accumulated contributions.

## REFUND OF CONTRIBUTIONS:

Death prior to retirement - accumulated contributions credited to individual account in annuity savings fund are returnable to 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 age 60, when he may apply for retirement and begin receiving a retirement benefit based on the credits he had at date of withdrawal.

## EXHIBIT 5 (Continued)

## Plan Provisions

## 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 board.
Options 2A, 3A, 4A - Same as Options 2, 3, and 4, except that reduced benefit reverts back 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 may elect to participate in the Deferred Retirement Option Plan (DROP) and defer receipt of benefits.

## Normal Eligibility:

Any member who is eligible to receive a $2.5 \%$ service retirement allowance, or who has 10 years of service credit, exclusive of military service, at age 60 may begin participation on the first retirement eligibility date for a period not to exceed the third anniversary of retirement eligibility.

## 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.

## EXHIBIT 5 (Continued)

## Plan Provisions

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 ceases 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 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.

## Exhibit 5 (Continued)

Plan Provisions

## DESCRIPTION OF BENEFITS

 FOR MERGED LSU EMPLOYEES
## GENERAL:

Eligibility for benefits 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 $2 / 9$ ths.

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)

| Calendar Year of Entry | Breakpoint Average |
| :---: | :---: |
| 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 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 (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, plus (2) $2.5 \%$ (or $2 \%$ if total service less than 20 years) times final average salary times years since January 1 , 1979, plus $\$ 300$.

## 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.

## Exhibit 5 (Continued) <br> Plan Provisions

## 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.

## EXHIBIT 5 (Continued)

Plan Provisions

## 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: $\quad 9.10 \%$ of monthly earnings
Plan B: $5 \%$ of monthly earnings

## EMPLOYER CONTRIBUTIONS:

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

## EXHIBIT 5 (Continued)

## Plan Provisions

## SCHOOL LUNCH PLAN A

## RETIREMENT BENEFIT:

Members hired after June 30, 1983 earn Regular Teachers Benefits. Benefits 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.
*These members are eligible to retire upon reaching age 70 , with less than 10 years of creditable service.
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.

## EXHIBIT 5 (Continued)

## Plan Provisions

## 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, but will resume upon subsequent death or divorce. 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, but resume upon subsequent death or divorce of new spouse.
3. Return of member's accumulated contributions.

## EXHIBIT 5 (Continued)

Plan Provisions

## 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.

NOTE:
Benefit reduced by $3 \%$ for each year under age 62, unless member has 25 years of creditable service.

## DISABILITY RETIREMENT:

Eligibility:

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

Benefit:

Normal retirement allowance if eligible therefore; 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.

## EXHIBIT 5 (Continued)

Plan Provisions

## 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 members 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.

## EXHIBIT 6

## ACTUARIAL COST METHODS AND ASSUMPTIONS

## COST METHOD:

The "Projected Unit Credit" cost method was used to calculate the funding requirements of the retirement system, as required by Louisiana Statutes, R. S. 11:22. Under this cost method, the actuarial present value of projected benefits of each individual included in the valuation is accumulated from the participant's attained age to the anticipated retirement date(s). That portion of the actuarial present value attributable to the current year's projected benefit accruals is called the normal cost. The actuarial present value of future projected benefits in proportion to service accrued on the date of valuation is called the actuarial accrued liability.

## ASSET VALUATION:

For the Plan Year Ending June 30, 1999 through June 30, 2012, the computation of the Actuarial Value of Assets is the market value of assets adjusted for a four year weighted average of the unrealized gain or loss in the value of all assets, subject to Corridor Limits of $80 \%$ to $120 \%$ of the Market Value of Assets.

Beginning June 30, 2013, the market value of assets is adjusted to gradually recognize investment gains and losses relative to the net assumed investment return, 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 Governmental Accounting Standards Board Statement No. 25 requires the disclosure of "Credited Projected Benefits" for Public Employee Retirement Systems. The disclosures illustrated in Exhibit 3 were developed using the Projected Unit Credit cost method. The statement of assets provided by the audit staff was the final draft prior to publication. Should the statement of assets received differ from the final audit report, a revised actuarial statement 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.

## ACTUARIAL ASSUMPTIONS:

Assumptions used in the valuation were adopted by the Board of Trustees following the most recent experience study. 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. An experience study was recently completed for the observation period of 2008-2012. The recommended rates were adopted by the Board, effective July 1, 2013. The experience was reviewed separately for Regular Teachers, Higher Education, School Lunch Plan A, and School Lunch Plan B. The prior and recently adopted rate tables are illustrated at the end of this exhibit.

## MORTALITY ASSUMPTIONS:

Pre-retirement deaths and post-retirement life expectancies were previously based upon the RP-2000 table with no projection of mortality improvement. The table recently adopted by the Board, in accordance with the most recent Experience Study, is based upon the RP-2000 table with mortality projected through 2025 using scale AA.

## EXHIBIT 6 (Continued)

## Cost Methods \& Assumptions

## DISABILITY ASSUMPTION:

Rates for total and permanent disability were projected by age in accordance with the most recent Experience Study. The rates are based upon attained age at occurrence. For mortality after disability, rates are based upon the RP-2000 disability table with no projection of mortality improvement. This table did not change as a result of 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. Previously, retirement and DROP rates were each determined for all plans and were age based. The most recent experience study developed the Retirement and DROP rates in combination and added a service component to the assumptions. Prior and recently adopted tables are shown at the end of this exhibit.

## TERMINATION ASSUMPTIONS:

Voluntary termination or withdrawal rates are based on the most recent experience study. Rates for Regular Teachers and Higher Education members are based on select and ultimate age and service-based tables. Rate for Lunch Plan A and Lunch Plan B are service-based tables. For members terminating with vested benefits, it is assumed that $80 \%$ will not withdraw their accumulated employee contribution, and will receive a benefit beginning at age 60.

## SALARY GROWTH:

The rates of annual salary growth are base upon the member's years of service. Rates were recently revised, in accordance with the recent Experience Study. The inflation component was changed from $3.0 \%$ to $2.5 \%$. Prior and recently adopted tables are illustrated in the rate tables at the end of this exhibit. Current salaries and projected future salaries are limited to the Section 401(a)17 limit of the Internal Revenue Code, with no future indexed increases.

## 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. These assumptions did not change as a result of the most recent Experience Study. Sample rates are as follows:

| Age of <br> Member | Number of <br> Minor <br> Children | Years for Youngest Child <br> to Attain Majority |
| :---: | :---: | :---: |
| 25 | 1.2 | 15 |
| 30 | 1.4 | 13 |
| 35 | 1.7 | 11 |
| 40 | 1.7 | 9 |
| 45 | 1.4 | 6 |
| 50 | 1.1 | 4 |

## EXHIBIT 6 (Continued)

## Cost Methods \& Assumptions

## ASSUMPTION FOR INCOMPLETE DATA:

Records identified as containing suspicious data or errors in data were assumed to possess the same characteristics of "good data" in the same cohort.

## INVESTMENT EARNINGS:

The Board of Trustees adopted a discount rate of $8.00 \%$, net of investment expenses and net of expected investment gains to be deferred to the experience account, which is expected to be approximately 50 basis points. This rate is effective July 1, 2013. The rate was chosen following an analysis to determine a reasonable range for the discount rate, which was based upon a study provided by the Board's investment consultant. The prior discount rate through June 30, 2013, was $8.25 \%$, net of investment expenses.

The analysis that resulted in the recommended $8.00 \%$ rate was originally based upon capital market assumptions using a $3.0 \%$ inflation assumption. With the adoption of the revised actuarial assumptions following the recent experience study, the inflation assumption was changed from $3.0 \%$ to $2.5 \%$. The discount rate analysis was revised and adjusted based on the revised inflation assumption. The $8.0 \%$ rate was determined to continue to be reasonable for purposes of this valuation.

## CONVERTED LEAVE:

Converted Leave is assumed to increase the accrued benefit at retirement as follows according to the following table, based on the most recent experience study. The reduction from the prior rates 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.

|  | Prior Rates | Current Rates |
| :---: | :---: | :---: |
| Regular Teachers | $2.5 \%$ | $1.5 \%$ |
| Higher Education | $2.8 \%$ | $1.5 \%$ |
| Lunch Plan A | $1.5 \%$ | $1.0 \%$ |
| Lunch Plan B | $1.5 \%$ | $1.0 \%$ |

## ADMINISTRATIVE EXPENSES:

Administrative expenses are not explicitly assumed but rather funded in accordance with R.S. 11 Section 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 are instead funded through the employer rate as an experience loss which is amortized over a 30 -year period. While this approach would not have been our original recommendation, further use of this practice will continue to produce stable contribution rates.

## Actuarial Assumptions prior to July 1, 2013

TEACHERS
ACTUARIAL TABLES AND RATES
(* Retirement and DROP rates applicable to members hired prior to January 1, 2011) Rates effective 6/30/08-6/30/13

| AGE | DEATH RATES |  | DISABILITY | TERMINATION | RETIREMENT | DROP |  | SALARY |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | MALE | FEMALE | RATES | RATES | RATES * | RATES * | DUR | SCALE |
| 18 | 0.00032 | 0.00019 | 0.0000 | 0.05 | 0.000 | 0.00 | 1 | 1.055 |
| 19 | 0.00033 | 0.00019 | 0.0000 | 0.05 | 0.000 | 0.00 | 2 | 1.069 |
| 20 | 0.00034 | 0.00019 | 0.0000 | 0.10 | 0.000 | 0.00 | 3 | 1.064 |
| 21 | 0.00036 | 0.00019 | 0.0000 | 0.09 | 0.000 | 0.00 | 4 | 1.063 |
| 22 | 0.00037 | 0.00019 | 0.0000 | 0.04 | 0.000 | 0.00 | 5 | 1.062 |
| 23 | 0.00037 | 0.00020 | 0.0001 | 0.07 | 0.000 | 0.00 | 6 | 1.062 |
| 24 | 0.00038 | 0.00020 | 0.0001 | 0.13 | 0.000 | 0.00 | 7 | 1.061 |
| 25 | 0.00038 | 0.00021 | 0.0001 | 0.13 | 0.000 | 0.00 | 8 | 1.061 |
| 26 | 0.00038 | 0.00021 | 0.0001 | 0.13 | 0.000 | 0.00 | 9 | 1.060 |
| 27 | 0.00038 | 0.00022 | 0.0001 | 0.13 | 0.000 | 0.00 | 10 | 1.060 |
| 28 | 0.00039 | 0.00024 | 0.0001 | 0.13 | 0.000 | 0.00 | 11 | 1.059 |
| 29 | 0.00041 | 0.00025 | 0.0001 | 0.13 | 0.000 | 0.00 | 12 | 1.059 |
| 30 | 0.00044 | 0.00026 | 0.0001 | 0.13 | 0.000 | 0.00 | 13 | 1.057 |
| 31 | 0.00050 | 0.00031 | 0.0003 | 0.11 | 0.000 | 0.00 | 14 | 1.053 |
| 32 | 0.00056 | 0.00035 | 0.0003 | 0.11 | 0.000 | 0.00 | 15 | 1.051 |
| 33 | 0.00063 | 0.00039 | 0.0003 | 0.10 | 0.000 | 0.00 | 16 | 1.051 |
| 34 | 0.00070 | 0.00043 | 0.0003 | 0.10 | 0.000 | 0.00 | 17 | 1.051 |
| 35 | 0.00077 | 0.00047 | 0.0006 | 0.09 | 0.000 | 0.00 | 18 | 1.051 |
| 36 | 0.00084 | 0.00051 | 0.0010 | 0.08 | 0.000 | 0.00 | 19 | 1.051 |
| 37 | 0.00090 | 0.00055 | 0.0007 | 0.07 | 0.000 | 0.00 | 20 | 1.051 |
| 38 | 0.00096 | 0.00060 | 0.0007 | 0.06 | 0.020 | 0.00 | 21 | 1.048 |
| 39 | 0.00102 | 0.00065 | 0.0011 | 0.06 | 0.040 | 0.00 | 22 | 1.048 |
| 40 | 0.00108 | 0.00071 | 0.0011 | 0.06 | 0.040 | 0.00 | 23 | 1.048 |
| 41 | 0.00114 | 0.00077 | 0.0013 | 0.05 | 0.030 | 0.00 | 24 | 1.048 |
| 42 | 0.00121 | 0.00085 | 0.0016 | 0.05 | 0.030 | 0.00 | 25 | 1.048 |
| 43 | 0.00130 | 0.00094 | 0.0016 | 0.05 | 0.030 | 0.00 | 26 | 1.044 |
| 44 | 0.00140 | 0.00103 | 0.0016 | 0.04 | 0.030 | 0.00 | 27 | 1.044 |
| 45 | 0.00151 | 0.00112 | 0.0022 | 0.04 | 0.030 | 0.00 | 28 | 1.044 |
| 46 | 0.00162 | 0.00122 | 0.0022 | 0.04 | 0.030 | 0.00 | 29 | 1.048 |
| 47 | 0.00173 | 0.00133 | 0.0022 | 0.04 | 0.030 | 0.00 | 30 | 1.048 |
| 48 | 0.00186 | 0.00143 | 0.0022 | 0.03 | 0.030 | 0.01 | 31 | 1.048 |
| 49 | 0.00200 | 0.00155 | 0.0022 | 0.03 | 0.028 | 0.02 | 32 | 1.053 |
| 50 | 0.00214 | 0.00168 | 0.0025 | 0.03 | 0.028 | 0.03 | 33 | 1.053 |
| 51 | 0.00245 | 0.00185 | 0.0025 | 0.03 | 0.030 | 0.15 | 34 | 1.080 |
| 52 | 0.00267 | 0.00202 | 0.0025 | 0.04 | 0.035 | 0.50 | 35 | 1.058 |
| 53 | 0.00292 | 0.00221 | 0.0030 | 0.04 | 0.050 | 0.40 | 36 | 1.058 |
| 54 | 0.00320 | 0.00242 | 0.0030 | 0.04 | 0.075 | 0.40 | 37 | 1.058 |
| 55 | 0.00362 | 0.00272 | 0.0040 | 0.04 | 0.200 | 0.60 | 38 | 1.058 |
| 56 | 0.00420 | 0.00309 | 0.0050 | 0.04 | 0.230 | 0.15 | 39 | 1.058 |
| 57 | 0.00469 | 0.00348 | 0.0055 | 0.04 | 0.250 | 0.07 | 40 | 1.058 |
| 58 | 0.00527 | 0.00392 | 0.0055 | 0.04 | 0.365 | 0.07 | 41 | 1.058 |
| 59 | 0.00594 | 0.00444 | 0.0055 | 0.04 | 0.280 | 0.07 | 42 | 1.058 |
| 60 | 0.00675 | 0.00505 | 0.0080 | 0.04 | 0.280 | 0.15 | 43 | 1.058 |
| 61 | 0.00768 | 0.00581 | 0.0050 | 0.04 | 0.280 | 0.03 | 44 | 1.058 |
| 62 | 0.00876 | 0.00666 | 0.0035 | 0.04 | 0.280 | 0.01 | 45 | 1.058 |
| 63 | 0.01001 | 0.00765 | 0.0035 | 0.04 | 0.330 | 0.01 | 46 | 1.058 |
| 64 | 0.01128 | 0.00862 | 0.0035 | 0.04 | 0.330 | 0.01 | 47 | 1.058 |
| 65 | 0.01274 | 0.00971 | 0.0035 | 0.04 | 0.330 | 0.01 | 48 | 1.058 |
| 66 | 0.01441 | 0.01095 | 0.0020 | 0.04 | 0.400 | 0.00 | 49 | 1.058 |
| 67 | 0.01607 | 0.01216 | 0.0020 | 0.04 | 0.340 | 0.00 | 50 | 1.058 |
| 68 | 0.01787 | 0.01345 | 0.0020 | 0.04 | 0.340 | 0.00 | 51 | 1.058 |
| 69 | 0.01980 | 0.01486 | 0.0020 | 0.04 | 0.340 | 0.00 | 52 | 1.058 |
| 70 | 0.02221 | 0.01674 | 0.0020 | 0.04 | 0.340 | 0.00 | 53 | 1.058 |
| 71 | 0.02457 | 0.01858 | 0.0020 | 0.04 | 0.340 | 0.00 | 54 | 1.058 |
| 72 | 0.02728 | 0.02067 | 0.0020 | 0.04 | 0.500 | 0.00 | 55 | 1.058 |
| 73 | 0.03039 | 0.02297 | 0.0020 | 0.04 | 0.990 | 0.00 | 56 | 1.058 |
| 74 | 0.03390 | 0.02546 | 0.0020 | 0.04 | 0.990 | 0.00 | 57 | 1.058 |
|  |  |  |  | - 49 - |  |  |  |  |

## Actuarial Assumptions prior to July 1, 2013

HIGHER EDUCATION
ACTUARIAL TABLES AND RATES
(* Retirement and DROP rates applicable to members hired prior to January 1, 2011)
Rates effective 6/30/08-6/30/13

|  | DEATH RATES |  | $\begin{gathered} \text { DISABILITY } \\ \text { RATES } \\ \hline \end{gathered}$ | TERMINATION RATES | RETIREMENTRATES | $\begin{gathered} \text { DROP } \\ \text { RATES } \end{gathered}$ | DUR | $\begin{gathered} \text { SALARY } \\ \text { SCALE } \\ \hline \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| AGE | MALE | FEMALE |  |  |  |  |  |  |
| 18 | 0.00032 | 0.00019 | 0.0000 | 0.05 | 0.00 | 0.00 | 1 | 1.055 |
| 19 | 0.00033 | 0.00019 | 0.0000 | 0.05 | 0.00 | 0.00 | 2 | 1.071 |
| 20 | 0.00034 | 0.00019 | 0.0000 | 0.05 | 0.00 | 0.00 | 3 | 1.057 |
| 21 | 0.00036 | 0.00019 | 0.0000 | 0.05 | 0.00 | 0.00 | 4 | 1.054 |
| 22 | 0.00037 | 0.00019 | 0.0000 | 0.05 | 0.00 | 0.00 | 5 | 1.054 |
| 23 | 0.00037 | 0.00020 | 0.0001 | 0.05 | 0.00 | 0.00 | 6 | 1.054 |
| 24 | 0.00038 | 0.00020 | 0.0001 | 0.10 | 0.00 | 0.00 | 7 | 1.054 |
| 25 | 0.00038 | 0.00021 | 0.0001 | 0.10 | 0.00 | 0.00 | 8 | 1.052 |
| 26 | 0.00038 | 0.00021 | 0.0001 | 0.16 | 0.00 | 0.00 | 9 | 1.052 |
| 27 | 0.00038 | 0.00022 | 0.0001 | 0.13 | 0.00 | 0.00 | 10 | 1.052 |
| 28 | 0.00039 | 0.00024 | 0.0001 | 0.12 | 0.00 | 0.00 | 11 | 1.050 |
| 29 | 0.00041 | 0.00025 | 0.0001 | 0.12 | 0.00 | 0.00 | 12 | 1.050 |
| 30 | 0.00044 | 0.00026 | 0.0001 | 0.12 | 0.00 | 0.00 | 13 | 1.050 |
| 31 | 0.00050 | 0.00031 | 0.0001 | 0.10 | 0.00 | 0.00 | 14 | 1.050 |
| 32 | 0.00056 | 0.00035 | 0.0001 | 0.12 | 0.00 | 0.00 | 15 | 1.050 |
| 33 | 0.00063 | 0.00039 | 0.0001 | 0.10 | 0.00 | 0.00 | 16 | 1.049 |
| 34 | 0.00070 | 0.00043 | 0.0001 | 0.10 | 0.00 | 0.00 | 17 | 1.049 |
| 35 | 0.00077 | 0.00047 | 0.0001 | 0.10 | 0.00 | 0.00 | 18 | 1.049 |
| 36 | 0.00084 | 0.00051 | 0.0001 | 0.07 | 0.00 | 0.00 | 19 | 1.048 |
| 37 | 0.00090 | 0.00055 | 0.0001 | 0.07 | 0.00 | 0.00 | 20 | 1.048 |
| 38 | 0.00096 | 0.00060 | 0.0001 | 0.08 | 0.00 | 0.00 | 21 | 1.048 |
| 39 | 0.00102 | 0.00065 | 0.0010 | 0.08 | 0.00 | 0.00 | 22 | 1.048 |
| 40 | 0.00108 | 0.00071 | 0.0010 | 0.07 | 0.05 | 0.00 | 23 | 1.045 |
| 41 | 0.00114 | 0.00077 | 0.0010 | 0.06 | 0.09 | 0.00 | 24 | 1.045 |
| 42 | 0.00121 | 0.00085 | 0.0010 | 0.05 | 0.09 | 0.00 | 25 | 1.045 |
| 43 | 0.00130 | 0.00094 | 0.0010 | 0.05 | 0.09 | 0.00 | 26 | 1.045 |
| 44 | 0.00140 | 0.00103 | 0.0010 | 0.05 | 0.09 | 0.00 | 27 | 1.045 |
| 45 | 0.00151 | 0.00112 | 0.0010 | 0.04 | 0.09 | 0.00 | 28 | 1.045 |
| 46 | 0.00162 | 0.00122 | 0.0010 | 0.04 | 0.09 | 0.00 | 29 | 1.045 |
| 47 | 0.00173 | 0.00133 | 0.0010 | 0.04 | 0.06 | 0.00 | 30 | 1.045 |
| 48 | 0.00186 | 0.00143 | 0.0010 | 0.03 | 0.06 | 0.00 | 31 | 1.045 |
| 49 | 0.00200 | 0.00155 | 0.0010 | 0.03 | 0.05 | 0.00 | 32 | 1.045 |
| 50 | 0.00214 | 0.00168 | 0.0010 | 0.02 | 0.04 | 0.00 | 33 | 1.045 |
| 51 | 0.00245 | 0.00185 | 0.0010 | 0.02 | 0.03 | 0.03 | 34 | 1.045 |
| 52 | 0.00267 | 0.00202 | 0.0040 | 0.02 | 0.05 | 0.07 | 35 | 1.045 |
| 53 | 0.00292 | 0.00221 | 0.0040 | 0.02 | 0.05 | 0.12 | 36 | 1.045 |
| 54 | 0.00320 | 0.00242 | 0.0010 | 0.02 | 0.09 | 0.12 | 37 | 1.045 |
| 55 | 0.00362 | 0.00272 | 0.0010 | 0.02 | 0.18 | 0.55 | 38 | 1.045 |
| 56 | 0.00420 | 0.00309 | 0.0010 | 0.02 | 0.18 | 0.10 | 39 | 1.045 |
| 57 | 0.00469 | 0.00348 | 0.0010 | 0.02 | 0.18 | 0.10 | 40 | 1.045 |
| 58 | 0.00527 | 0.00392 | 0.0010 | 0.02 | 0.28 | 0.07 | 41 | 1.045 |
| 59 | 0.00594 | 0.00444 | 0.0010 | 0.02 | 0.21 | 0.07 | 42 | 1.045 |
| 60 | 0.00675 | 0.00505 | 0.0010 | 0.02 | 0.28 | 0.07 | 43 | 1.045 |
| 61 | 0.00768 | 0.00581 | 0.0010 | 0.02 | 0.21 | 0.02 | 44 | 1.045 |
| 62 | 0.00876 | 0.00666 | 0.0010 | 0.02 | 0.21 | 0.01 | 45 | 1.045 |
| 63 | 0.01001 | 0.00765 | 0.0010 | 0.02 | 0.21 | 0.01 | 46 | 1.045 |
| 64 | 0.01128 | 0.00862 | 0.0010 | 0.02 | 0.21 | 0.01 | 47 | 1.045 |
| 65 | 0.01274 | 0.00971 | 0.0010 | 0.02 | 0.28 | 0.01 | 48 | 1.045 |
| 66 | 0.01441 | 0.01095 | 0.0010 | 0.02 | 0.28 | 0.01 | 49 | 1.045 |
| 67 | 0.01607 | 0.01216 | 0.0010 | 0.02 | 0.28 | 0.01 | 50 | 1.045 |
| 68 | 0.01787 | 0.01345 | 0.0010 | 0.02 | 0.28 | 0.01 | 51 | 1.045 |
| 69 | 0.01980 | 0.01486 | 0.0005 | 0.02 | 0.20 | 0.01 | 52 | 1.045 |
| 70 | 0.02221 | 0.01674 | 0.0005 | 0.02 | 0.20 | 0.01 | 53 | 1.045 |
| 71 | 0.02457 | 0.01858 | 0.0005 | 0.02 | 0.20 | 0.01 | 54 | 1.045 |
| 72 | 0.02728 | 0.02067 | 0.0005 | 0.02 | 0.50 | 0.01 | 55 | 1.045 |
| 73 | 0.03039 | 0.02297 | 0.0005 | 0.02 | 0.50 | 0.01 | 56 | 1.045 |
| 74 | 0.03390 | 0.02546 | 0.0005 | 0.02 | 0.99 | 0.01 | 57 | 1.045 |

Actuarial Assumptions prior to July 1, 2013
REGULAR TEACHERS AND HIGHER EDUCATION, HIRED ON OR AFTER 1/1/2011
ACTUARIAL TABLES AND RATES
Rates effective 6/30/08-6/30/13


- 51 -


## Actuarial Assumptions prior to July 1, 2013

LUNCH PLAN A
ACTUARIAL TABLES AND RATES
Rates effective 6/30/08-6/30/13

|  | DEATH RATES |  | DISABILITY | TERMINATION | RETIREMENT | DROP |  | SALARY |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| AGE | MALE | FEMALE | RATES | RATES | RATES | RATES | DUR | SCALE |
| 18 | 0.00032 | 0.00019 | 0.0000 | 0.00 | 0.00 | 0.00 | 1 | 1.065 |
| 19 | 0.00033 | 0.00019 | 0.0000 | 0.00 | 0.00 | 0.00 | 2 | 1.075 |
| 20 | 0.00034 | 0.00019 | 0.0000 | 0.00 | 0.00 | 0.00 | 3 | 1.070 |
| 21 | 0.00036 | 0.00019 | 0.0000 | 0.00 | 0.00 | 0.00 | 4 | 1.066 |
| 22 | 0.00037 | 0.00019 | 0.0000 | 0.00 | 0.00 | 0.00 | 5 | 1.066 |
| 23 | 0.00037 | 0.00020 | 0.0000 | 0.00 | 0.00 | 0.00 | 6 | 1.058 |
| 24 | 0.00038 | 0.00020 | 0.0000 | 0.00 | 0.00 | 0.00 | 7 | 1.058 |
| 25 | 0.00038 | 0.00021 | 0.0000 | 0.00 | 0.00 | 0.00 | 8 | 1.058 |
| 26 | 0.00038 | 0.00021 | 0.0000 | 0.00 | 0.00 | 0.00 | 9 | 1.058 |
| 27 | 0.00038 | 0.00022 | 0.0000 | 0.00 | 0.00 | 0.00 | 10 | 1.045 |
| 28 | 0.00039 | 0.00024 | 0.0000 | 0.00 | 0.00 | 0.00 | 11 | 1.045 |
| 29 | 0.00041 | 0.00025 | 0.0000 | 0.00 | 0.00 | 0.00 | 12 | 1.045 |
| 30 | 0.00044 | 0.00026 | 0.0000 | 0.02 | 0.00 | 0.00 | 13 | 1.045 |
| 31 | 0.00050 | 0.00031 | 0.0001 | 0.02 | 0.00 | 0.00 | 14 | 1.045 |
| 32 | 0.00056 | 0.00035 | 0.0001 | 0.02 | 0.00 | 0.00 | 15 | 1.045 |
| 33 | 0.00063 | 0.00039 | 0.0001 | 0.02 | 0.00 | 0.00 | 16 | 1.045 |
| 34 | 0.00070 | 0.00043 | 0.0001 | 0.02 | 0.00 | 0.00 | 17 | 1.045 |
| 35 | 0.00077 | 0.00047 | 0.0001 | 0.02 | 0.00 | 0.00 | 18 | 1.045 |
| 36 | 0.00084 | 0.00051 | 0.0001 | 0.02 | 0.00 | 0.00 | 19 | 1.045 |
| 37 | 0.00090 | 0.00055 | 0.0001 | 0.02 | 0.00 | 0.00 | 20 | 1.052 |
| 38 | 0.00096 | 0.00060 | 0.0001 | 0.02 | 0.00 | 0.00 | 21 | 1.045 |
| 39 | 0.00102 | 0.00065 | 0.0001 | 0.02 | 0.00 | 0.00 | 22 | 1.040 |
| 40 | 0.00108 | 0.00071 | 0.0001 | 0.02 | 0.00 | 0.00 | 23 | 1.040 |
| 41 | 0.00114 | 0.00077 | 0.0001 | 0.02 | 0.00 | 0.00 | 24 | 1.045 |
| 42 | 0.00121 | 0.00085 | 0.0001 | 0.02 | 0.00 | 0.00 | 25 | 1.045 |
| 43 | 0.00130 | 0.00094 | 0.0001 | 0.02 | 0.00 | 0.00 | 26 | 1.048 |
| 44 | 0.00140 | 0.00103 | 0.0100 | 0.02 | 0.00 | 0.00 | 27 | 1.048 |
| 45 | 0.00151 | 0.00112 | 0.0100 | 0.02 | 0.00 | 0.00 | 28 | 1.048 |
| 46 | 0.00162 | 0.00122 | 0.0100 | 0.02 | 0.00 | 0.00 | 29 | 1.048 |
| 47 | 0.00173 | 0.00133 | 0.0100 | 0.02 | 0.00 | 0.00 | 30 | 1.050 |
| 48 | 0.00186 | 0.00143 | 0.0100 | 0.02 | 0.00 | 0.02 | 31 | 1.050 |
| 49 | 0.00200 | 0.00155 | 0.0150 | 0.02 | 0.01 | 0.02 | 32 | 1.060 |
| 50 | 0.00214 | 0.00168 | 0.0150 | 0.02 | 0.01 | 0.02 | 33 | 1.050 |
| 51 | 0.00245 | 0.00185 | 0.0150 | 0.02 | 0.01 | 0.02 | 34 | 1.050 |
| 52 | 0.00267 | 0.00202 | 0.0150 | 0.02 | 0.01 | 0.02 | 35 | 1.050 |
| 53 | 0.00292 | 0.00221 | 0.0150 | 0.02 | 0.03 | 0.02 | 36 | 1.045 |
| 54 | 0.00320 | 0.00242 | 0.0150 | 0.02 | 0.03 | 0.02 | 37 | 1.045 |
| 55 | 0.00362 | 0.00272 | 0.0300 | 0.02 | 0.15 | 0.50 | 38 | 1.045 |
| 56 | 0.00420 | 0.00309 | 0.0250 | 0.02 | 0.15 | 0.20 | 39 | 1.045 |
| 57 | 0.00469 | 0.00348 | 0.0250 | 0.02 | 0.15 | 0.20 | 40 | 1.045 |
| 58 | 0.00527 | 0.00392 | 0.0250 | 0.02 | 0.25 | 0.20 | 41 | 1.045 |
| 59 | 0.00594 | 0.00444 | 0.0250 | 0.02 | 0.25 | 0.20 | 42 | 1.045 |
| 60 | 0.00675 | 0.00505 | 0.0100 | 0.02 | 0.35 | 0.55 | 43 | 1.045 |
| 61 | 0.00768 | 0.00581 | 0.0002 | 0.01 | 0.35 | 0.20 | 44 | 1.045 |
| 62 | 0.00876 | 0.00666 | 0.0002 | 0.01 | 0.35 | 0.10 | 45 | 1.045 |
| 63 | 0.01001 | 0.00765 | 0.0002 | 0.01 | 0.50 | 0.02 | 46 | 1.045 |
| 64 | 0.01128 | 0.00862 | 0.0002 | 0.01 | 0.50 | 0.02 | 47 | 1.045 |
| 65 | 0.01274 | 0.00971 | 0.0002 | 0.01 | 0.40 | 0.02 | 48 | 1.045 |
| 66 | 0.01441 | 0.01095 | 0.0002 | 0.01 | 0.40 | 0.02 | 49 | 1.045 |
| 67 | 0.01607 | 0.01216 | 0.0002 | 0.01 | 0.35 | 0.02 | 50 | 1.045 |
| 68 | 0.01787 | 0.01345 | 0.0002 | 0.01 | 0.25 | 0.02 | 51 | 1.045 |
| 69 | 0.01980 | 0.01486 | 0.0000 | 0.01 | 0.20 | 0.02 | 52 | 1.045 |
| 70 | 0.02221 | 0.01674 | 0.0000 | 0.01 | 0.20 | 0.02 | 53 | 1.045 |
| 71 | 0.02457 | 0.01858 | 0.0000 | 0.01 | 0.20 | 0.02 | 54 | 1.045 |
| 72 | 0.02728 | 0.02067 | 0.0000 | 0.01 | 0.50 | 0.02 | 55 | 1.045 |
| 73 | 0.03039 | 0.02297 | 0.0000 | 0.01 | 0.50 | 0.02 | 56 | 1.045 |
| 74 | 0.03390 | 0.02546 | 0.0000 | 0.01 | 0.99 | 0.02 | 57 | 1.045 |

## Actuarial Assumptions prior to July 1, 2013

## LUNCH PLAN B <br> ACTUARIAL TABLES AND RATES <br> Rates effective 6/30/08-6/30/13

|  | DEATH RATES |  | DISABILITY | TERMINATION | RETIREMENT | DROP |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| AGE | MALE | FEMALE | RATES | RATES | RATES | RATES | DUR | SALARY |
| SCALE |  |  |  |  |  |  |  |  |

Foster \& Foster, Actuaries and Consultants

## Actuarial Assumptions, effective July 1, 2013 Regular Teachers

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


|  |  |
| :---: | :---: |
| $\mathbf{D U R}$ | SALARY <br> INCREASE |
| $\mathbf{0}$ | 0.0575 |
| $\mathbf{1}$ | 0.0575 |
| $\mathbf{2}$ | 0.0575 |
| $\mathbf{3}$ | 0.0575 |
| $\mathbf{4}$ | 0.0575 |
| $\mathbf{5}$ | 0.0500 |
| $\mathbf{6}$ | 0.0500 |
| $\mathbf{7}$ | 0.0500 |
| $\mathbf{8}$ | 0.0500 |
| $\mathbf{9}$ | 0.0500 |
| $\mathbf{1 0}$ | 0.0475 |
| $\mathbf{1 1}$ | 0.0475 |
| $\mathbf{1 2}$ | 0.0475 |
| $\mathbf{1 3}$ | 0.0475 |
| $\mathbf{1 4}$ | 0.0475 |
| $\mathbf{1 5}$ | 0.0450 |
| $\mathbf{1 6}$ | 0.0450 |
| $\mathbf{1 7}$ | 0.0450 |
| $\mathbf{1 8}$ | 0.0450 |
| $\mathbf{1 9}$ | 0.0450 |
| $\mathbf{2 0}$ | 0.0400 |
| $\mathbf{2 1}$ | 0.0400 |
| $\mathbf{2 2}$ | 0.0400 |
| $\mathbf{2 3}$ | 0.0400 |
| $\mathbf{2 4}$ | 0.0400 |
| $\mathbf{2 5}$ | 0.0375 |
| $\mathbf{2 6}$ | 0.0375 |
| $\mathbf{2 7}$ | 0.0375 |
| $\mathbf{2 8}$ | 0.0375 |
| $\mathbf{2 9}$ | 0.0375 |
| $\mathbf{3 0}$ | 0.0425 |
| $\mathbf{3 1}$ | 0.0425 |
| $\mathbf{3 2}$ | 0.0425 |
| $\mathbf{3 3}$ | 0.0425 |
| $\mathbf{3 4}$ | 0.0425 |
| $\mathbf{3 5}$ | 0.0425 |
| $\mathbf{3 6}$ | 0.0425 |
| $\mathbf{3 7}$ | 0.0425 |
| $\mathbf{3 8}$ | 0.0425 |
| $\mathbf{3 9}$ | 0.0425 |
| $\mathbf{4 0}$ | 0.0425 |
| $\mathbf{4 1}$ | 0.0425 |
| $\mathbf{4 2}$ | 0.0425 |
| $\mathbf{4 3}$ | 0.0425 |
| $\mathbf{4 4}$ | 0.0425 |
| $\mathbf{4 5}$ | 0.0425 |
| $\mathbf{4 6}$ | 0.0425 |
| $\mathbf{4 7}$ | 0.0425 |
| $\mathbf{4 8}$ | 0.0425 |
| $\mathbf{4 9}$ | 0.0425 |
| $\mathbf{5 0}$ | 0.0425 |
| $\mathbf{5 1}$ | 0.0425 |
| $\mathbf{5 2}$ | 0.0425 |
| $\mathbf{5 3}$ | 0.0425 |
| $\mathbf{5 4}$ | 0.0425 |
| $\mathbf{5 5}$ | 0.0425 |
| $\mathbf{5 6}$ | 0.0425 |
|  |  |

Foster \& Foster, Actuaries and Consultants

## Actuarial Assumptions, effective July 1, 2013 Higher Education

| AGE | DEATH RATES |  | $\begin{gathered} \text { DISABILITY } \\ \text { RATES } \\ \hline \end{gathered}$ | TERMINATION RATES |  |  |  | RETIREMENT/DROPRATES |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | MALE | FEMALE |  | $\begin{gathered} <1 \\ \text { YEAR } \end{gathered}$ | $\begin{gathered} 1-2 \\ \text { YEARS } \end{gathered}$ | $\begin{gathered} 2-3 \\ \text { YEARS } \end{gathered}$ | $\begin{gathered} 4+ \\ \text { YEARS } \end{gathered}$ | $\begin{aligned} & <25 \\ & \text { YOS } \end{aligned}$ | $\begin{gathered} 25-29 \\ \text { YOS } \end{gathered}$ | $\begin{aligned} & \hline 30+ \\ & \text { YOS } \end{aligned}$ |
| 18 | 0.00020 | 0.00013 | 0.0000 | 0.250 | 0.250 | 0.170 | 0.120 | 0.000 | 0.000 | 0.000 |
| 19 | 0.00021 | 0.00013 | 0.0000 | 0.250 | 0.250 | 0.170 | 0.120 | 0.000 | 0.000 | 0.000 |
| 20 | 0.00021 | 0.00013 | 0.0000 | 0.250 | 0.250 | 0.170 | 0.120 | 0.000 | 0.000 | 0.000 |
| 21 | 0.00023 | 0.00013 | 0.0000 | 0.250 | 0.250 | 0.170 | 0.120 | 0.000 | 0.000 | 0.000 |
| 22 | 0.00024 | 0.00013 | 0.0000 | 0.250 | 0.250 | 0.170 | 0.120 | 0.000 | 0.000 | 0.000 |
| 23 | 0.00026 | 0.00013 | 0.0001 | 0.250 | 0.250 | 0.170 | 0.120 | 0.000 | 0.000 | 0.000 |
| 24 | 0.00027 | 0.00014 | 0.0001 | 0.250 | 0.250 | 0.170 | 0.120 | 0.000 | 0.000 | 0.000 |
| 25 | 0.00029 | 0.00015 | 0.0001 | 0.250 | 0.250 | 0.170 | 0.120 | 0.000 | 0.000 | 0.000 |
| 26 | 0.00033 | 0.00016 | 0.0001 | 0.210 | 0.250 | 0.170 | 0.120 | 0.000 | 0.000 | 0.000 |
| 27 | 0.00034 | 0.00017 | 0.0001 | 0.210 | 0.220 | 0.170 | 0.120 | 0.000 | 0.000 | 0.000 |
| 28 | 0.00035 | 0.00017 | 0.0001 | 0.220 | 0.220 | 0.170 | 0.120 | 0.000 | 0.000 | 0.000 |
| 29 | 0.00036 | 0.00018 | 0.0001 | 0.240 | 0.220 | 0.170 | 0.120 | 0.000 | 0.000 | 0.000 |
| 30 | 0.00039 | 0.00021 | 0.0001 | 0.250 | 0.160 | 0.170 | 0.180 | 0.000 | 0.000 | 0.000 |
| 31 | 0.00044 | 0.00025 | 0.0001 | 0.220 | 0.178 | 0.170 | 0.100 | 0.000 | 0.000 | 0.000 |
| 32 | 0.00050 | 0.00029 | 0.0001 | 0.220 | 0.190 | 0.160 | 0.100 | 0.000 | 0.000 | 0.000 |
| 33 | 0.00056 | 0.00031 | 0.0001 | 0.190 | 0.170 | 0.150 | 0.120 | 0.000 | 0.000 | 0.000 |
| 34 | 0.00062 | 0.00034 | 0.0001 | 0.230 | 0.155 | 0.100 | 0.120 | 0.000 | 0.000 | 0.000 |
| 35 | 0.00068 | 0.00036 | 0.0001 | 0.220 | 0.175 | 0.130 | 0.120 | 0.000 | 0.000 | 0.000 |
| 36 | 0.00074 | 0.00038 | 0.0001 | 0.220 | 0.160 | 0.150 | 0.120 | 0.000 | 0.000 | 0.000 |
| 37 | 0.00080 | 0.00040 | 0.0001 | 0.220 | 0.108 | 0.150 | 0.120 | 0.000 | 0.000 | 0.000 |
| 38 | 0.00083 | 0.00042 | 0.0001 | 0.190 | 0.180 | 0.150 | 0.100 | 0.100 | 0.080 | 0.600 |
| 39 | 0.00086 | 0.00044 | 0.0001 | 0.190 | 0.140 | 0.150 | 0.100 | 0.100 | 0.080 | 0.600 |
| 40 | 0.00088 | 0.00048 | 0.0001 | 0.230 | 0.185 | 0.150 | 0.100 | 0.100 | 0.080 | 0.600 |
| 41 | 0.00091 | 0.00053 | 0.0001 | 0.165 | 0.108 | 0.150 | 0.100 | 0.100 | 0.080 | 0.600 |
| 42 | 0.00095 | 0.00058 | 0.0001 | 0.230 | 0.115 | 0.150 | 0.100 | 0.100 | 0.080 | 0.400 |
| 43 | 0.00099 | 0.00064 | 0.0001 | 0.155 | 0.168 | 0.150 | 0.100 | 0.070 | 0.080 | 0.200 |
| 44 | 0.00103 | 0.00071 | 0.0001 | 0.195 | 0.135 | 0.150 | 0.100 | 0.070 | 0.080 | 0.050 |
| 45 | 0.00109 | 0.00075 | 0.0001 | 0.190 | 0.116 | 0.150 | 0.100 | 0.070 | 0.080 | 0.050 |
| 46 | 0.00114 | 0.00080 | 0.0008 | 0.162 | 0.170 | 0.150 | 0.080 | 0.070 | 0.080 | 0.050 |
| 47 | 0.00119 | 0.00084 | 0.0008 | 0.210 | 0.140 | 0.150 | 0.090 | 0.070 | 0.080 | 0.050 |
| 48 | 0.00124 | 0.00091 | 0.0008 | 0.135 | 0.180 | 0.150 | 0.090 | 0.070 | 0.080 | 0.050 |
| 49 | 0.00130 | 0.00098 | 0.0008 | 0.135 | 0.125 | 0.150 | 0.090 | 0.070 | 0.080 | 0.120 |
| 50 | 0.00136 | 0.00109 | 0.0008 | 0.185 | 0.108 | 0.060 | 0.090 | 0.070 | 0.080 | 0.120 |
| 51 | 0.00152 | 0.00124 | 0.0008 | 0.145 | 0.070 | 0.050 | 0.090 | 0.070 | 0.160 | 0.120 |
| 52 | 0.00161 | 0.00142 | 0.0008 | 0.155 | 0.110 | 0.095 | 0.090 | 0.070 | 0.160 | 0.120 |
| 53 | 0.00176 | 0.00163 | 0.0008 | 0.220 | 0.130 | 0.125 | 0.090 | 0.070 | 0.160 | 0.200 |
| 54 | 0.00193 | 0.00189 | 0.0008 | 0.220 | 0.075 | 0.017 | 0.090 | 0.150 | 0.280 | 0.180 |
| 55 | 0.00224 | 0.00222 | 0.0008 | 0.200 | 0.104 | 0.140 | 0.090 | 0.150 | 0.350 | 0.180 |
| 56 | 0.00267 | 0.00266 | 0.0020 | 0.135 | 0.122 | 0.100 | 0.080 | 0.150 | 0.200 | 0.180 |
| 57 | 0.00306 | 0.00307 | 0.0020 | 0.250 | 0.055 | 0.140 | 0.080 | 0.150 | 0.130 | 0.280 |
| 58 | 0.00352 | 0.00346 | 0.0020 | 0.100 | 0.115 | 0.200 | 0.100 | 0.150 | 0.130 | 0.280 |
| 59 | 0.00397 | 0.00392 | 0.0005 | 0.100 | 0.210 | 0.125 | 0.080 | 0.150 | 0.130 | 0.200 |
| 60 | 0.00451 | 0.00446 | 0.0005 | 0.150 | 0.160 | 0.090 | 0.060 | 0.150 | 0.130 | 0.200 |
| 61 | 0.00526 | 0.00513 | 0.0005 | 0.150 | 0.160 | 0.090 | 0.060 | 0.120 | 0.120 | 0.200 |
| 62 | 0.00600 | 0.00587 | 0.0005 | 0.150 | 0.160 | 0.090 | 0.060 | 0.120 | 0.120 | 0.200 |
| 63 | 0.00704 | 0.00675 | 0.0005 | 0.150 | 0.160 | 0.090 | 0.060 | 0.120 | 0.120 | 1.000 |
| 64 | 0.00793 | 0.00760 | 0.0005 | 0.150 | 0.160 | 0.090 | 0.060 | 0.120 | 0.120 | 1.000 |
| 65 | 0.00895 | 0.00856 | 0.0005 | 0.150 | 0.160 | 0.090 | 0.060 | 0.120 | 0.160 | 1.000 |
| 66 | 0.01039 | 0.00966 | 0.0005 | 0.150 | 0.160 | 0.090 | 0.060 | 0.120 | 0.160 | 1.000 |
| 67 | 0.01159 | 0.01073 | 0.0005 | 0.150 | 0.160 | 0.090 | 0.060 | 0.120 | 0.160 | 1.000 |
| 68 | 0.01256 | 0.01186 | 0.0005 | 0.150 | 0.160 | 0.090 | 0.060 | 0.120 | 0.160 | 1.000 |
| 69 | 0.01392 | 0.01311 | 0.0005 | 0.150 | 0.160 | 0.090 | 0.060 | 0.120 | 0.160 | 1.000 |
| 70 | 0.01522 | 0.01477 | 0.0005 | 0.150 | 0.160 | 0.090 | 0.060 | 0.120 | 0.160 | 1.000 |
| 71 | 0.01684 | 0.01598 | 0.0000 | 0.150 | 0.160 | 0.090 | 0.060 | 0.120 | 0.160 | 1.000 |
| 72 | 0.01870 | 0.01778 | 0.0000 | 0.150 | 0.160 | 0.090 | 0.060 | 0.120 | 0.160 | 1.000 |
| 73 | 0.02083 | 0.01927 | 0.0000 | 0.150 | 0.160 | 0.090 | 0.060 | 0.120 | 0.160 | 1.000 |
| 74 | 0.02323 | 0.02136 | 0.0000 | 0.150 | 0.160 | 0.090 | 0.060 | 0.120 | 0.160 | 1.000 |


| DUR | SALARY <br> INCREASE |
| :---: | :---: |
| 0 | 0.100 |
| 1 | 0.100 |
| 2 | 0.090 |
| 3 | 0.080 |
| 4 | 0.040 |
| 5 | 0.070 |
| 6 | 0.050 |
| 7 | 0.070 |
| 8 | 0.070 |
| 9 | 0.045 |
| 10 | 0.045 |
| 11 | 0.045 |
| 12 | 0.045 |
| 13 | 0.045 |
| 14 | 0.040 |
| 15 | 0.040 |
| 16 | 0.040 |
| 17 | 0.040 |
| 18 | 0.040 |
| 19 | 0.040 |
| 20 | 0.040 |
| 21 | 0.040 |
| 22 | 0.040 |
| 23 | 0.040 |
| 24 | 0.040 |
| 25 | 0.040 |
| 26 | 0.040 |
| 27 | 0.035 |
| 28 | 0.035 |
| 29 | 0.035 |
| 30 | 0.035 |
| 31 | 0.035 |
| 32 | 0.035 |
| 33 | 0.035 |
| 34 | 0.035 |
| 35 | 0.035 |
| 36 | 0.035 |
| 37 | 0.035 |
| 38 | 0.035 |
| 39 | 0.035 |
| 40 | 0.035 |
| 41 | 0.035 |
| 42 | 0.035 |
| 43 | 0.035 |
| 44 | 0.035 |
| 45 | 0.035 |
| 46 | 0.035 |
| 47 | 0.035 |
| 48 | 0.035 |
| 49 | 0.035 |
| 50 | 0.035 |
| 51 | 0.035 |
| 52 | 0.035 |
| 53 | 0.035 |
| 54 | 0.035 |
| 55 | 0.035 |
| 56 | 0.035 |

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

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


| DUR | TERMINATION RATES | SALARY INCREASE |
| :---: | :---: | :---: |
| 0 | 0.14 | 0.06 |
| 1 | 0.14 | 0.06 |
| 2 | 0.14 | 0.06 |
| 3 | 0.14 | 0.06 |
| 4 | 0.14 | 0.06 |
| 5 | 0.14 | 0.06 |
| 6 | 0.14 | 0.06 |
| 7 | 0.14 | 0.06 |
| 8 | 0.14 | 0.06 |
| 9 | 0.14 | 0.06 |
| 10 | 0.14 | 0.06 |
| 11 | 0.14 | 0.06 |
| 12 | 0.14 | 0.05 |
| 13 | 0.14 | 0.05 |
| 14 | 0.14 | 0.05 |
| 15 | 0.14 | 0.06 |
| 16 | 0.14 | 0.06 |
| 17 | 0.14 | 0.07 |
| 18 | 0.14 | 0.07 |
| 19 | 0.14 | 0.04 |
| 20 | 0.14 | 0.04 |
| 21 | 0.14 | 0.04 |
| 22 | 0.14 | 0.04 |
| 23 | 0.14 | 0.06 |
| 24 | 0.14 | 0.06 |
| 25 | 0.14 | 0.04 |
| 26 | 0.14 | 0.04 |
| 27 | 0.14 | 0.04 |
| 28 | 0.14 | 0.04 |
| 29 | 0.14 | 0.04 |
| 30 | 0.14 | 0.04 |
| 31 | 0.14 | 0.04 |
| 32 | 0.14 | 0.04 |
| 33 | 0.14 | 0.04 |
| 34 | 0.14 | 0.04 |
| 35 | 0.14 | 0.04 |
| 36 | 0.14 | 0.04 |
| 37 | 0.14 | 0.04 |
| 38 | 0.14 | 0.04 |
| 39 | 0.14 | 0.04 |
| 40 | 0.14 | 0.04 |
| 41 | 0.14 | 0.04 |
| 42 | 0.14 | 0.04 |
| 43 | 0.14 | 0.04 |
| 44 | 0.14 | 0.04 |
| 45 | 0.14 | 0.04 |
| 46 | 0.14 | 0.04 |
| 47 | 0.14 | 0.04 |
| 48 | 0.14 | 0.04 |
| 49 | 0.14 | 0.04 |
| 50 | 0.14 | 0.04 |
| 51 | 0.14 | 0.04 |
| 52 | 0.14 | 0.04 |
| 53 | 0.14 | 0.04 |
| 54 | 0.14 | 0.04 |
| 55 | 0.14 | 0.04 |
| 56 | 0.14 | 0.04 |

## Actuarial Assumptions, effective July 1, 2013

 Lunch Plan B| AGE | DEATH RATES |  | $\begin{aligned} & \text { DISABILITY } \\ & \text { RATES } \end{aligned}$ | RETIREMENT/DROP RATES | DUR | TERMINATION RATES | SALARY <br> 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 |

## Exhibit 7-A

## AMORTIZATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY

June 30, 2013

| Date | Description | Amtz. <br> Method | Amtz. <br> Period | Initial Liability | Years <br> Remain | Mid-Year <br> Payment |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2013 | OAB | Note 1 | 16 | $2,612,612,675$ | 16 | $2,612,612,675$ | $219,564,650$ |
| 2013 | EAAB | Note 2,3 | 27 | $4,064,252,065$ | 27 | $4,064,252,065$ | $291,113,415$ |
| 2013 | 2009 Change in Liability | L | 26 | $2,866,088,782$ | 26 | $2,866,088,782$ | $255,124,962$ |
| 2013 | 2010 Change in Liability | L | 27 | $1,119,279,127$ | 27 | $1,119,279,127$ | $98,492,054$ |
| 2013 | 2011 Change in Liability | L | 28 | $(172,122,180)$ | 28 | $(172,122,180)$ | $(14,987,193)$ |
| 2013 | 2012 Change in Liability | L | 29 | $124,707,329$ | 29 | $124,707,329$ | $10,754,196$ |
| 2013 | 2013 Change in Liability | L | 30 | $(248,560,781)$ | 30 | $(248,560,781)$ | $(21,245,543)$ |
| 2013 | 2013 Assumption Change | L | 30 | $871,681,891$ | 30 | $871,681,891$ | $74,506,345$ |
| 2013 | 2013 Asset Val Meth Change | L | 30 | $(25,686,598)$ | 30 | $(25,686,598)$ | $(2,195,542)$ |
|  |  |  |  |  |  | $\mathbf{\$}$ | $\mathbf{1 1 , 2 1 2 , 2 5 2 , 3 1 0}$ |

Employers Credit Balance

| 2013 | Contribution Variance | L | 1 | $(10,341,689)$ | 1 | $(10,341,689)$ | $(10,747,398)$ |
| :--- | :--- | :---: | :--- | :---: | :--- | ---: | ---: |
| 2013 | Contribution Variance | L | 2 | $66,729,412$ | 2 | $66,729,412$ | $36,007,220$ |
| 2013 | Contribution Variance | L | 3 | $68,511,720$ | 3 | $68,511,720$ | $25,581,278$ |
| 2013 | Contribution Variance | Note 3 | 0 | - | 0 | - | - |
| 2013 | Contribution Variance | L | 5 | $11,400,601$ | 5 | $11,400,601$ | $2,747,566$ |

Total Credit Balance

Total Unfunded Actuarial Accrued Liability
\$ 136,300,044 \$ 53,588,666
\$ 11,348,552,354 \$ 964,716,010

See Exhibit 7-D for notes and explanations.

## Exhibit 7-B

## AMORTIZATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY <br> June 30, 2014 - Projected

| Date | Description | Amtz. <br> Method | Amtz. <br> Period | Initial Liability | Years <br> Remain |  | Remaining Balance |  | -Year Payment |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2013 | OAB |  | 16 | 2,612,612,675 | 15 |  | 2,593,443,410 |  | 233,836,352 |
| 2013 | EAAB |  | 27 | 4,064,252,065 | 26 |  | 4,086,858,295 |  | 310,035,787 |
| 2013 | 2009 Change in Liability | L | 26 | 2,866,088,782 | 25 |  | 2,830,242,246 |  | 255,124,962 |
| 2013 | 2010 Change in Liability | L | 27 | 1,119,279,127 | 26 |  | 1,106,465,512 |  | 98,492,054 |
| 2013 | 2011 Change in Liability | L | 28 | $(172,122,180)$ | 27 |  | $(170,316,807)$ |  | $(14,987,193)$ |
| 2013 | 2012 Change in Liability | L | 29 | 124,707,329 | 28 |  | 123,507,827 |  | 10,754,196 |
| 2013 | 2013 Change in Liability | L | 30 | $(248,560,781)$ | 29 |  | $(246,366,627)$ |  | $(21,245,543)$ |
| 2013 | 2013 Assumption Change | L | 30 | 871,681,891 | 29 |  | 863,987,177 |  | 74,506,345 |
| 2013 | 2013 Asset Val Meth Change | L | 30 | $(25,686,598)$ | 29 |  | $(25,459,851)$ |  | $(2,195,542)$ |
|  | Total Outstanding Balance |  |  |  |  | \$ | 11,162,361,182 | \$ | 944,321,418 |
| Emplo | ers Credit Balance |  |  |  |  |  |  |  |  |
| 2013 | 2010 Contribution Variance | L | 2 | 66,729,412 | 1 |  | 34,647,964 |  | 36,007,220 |
| 2013 | 2011 Contribution Variance | L | 3 | 68,511,720 | 2 |  | 47,407,814 |  | 25,581,278 |
| 2013 | 2012 Contribution Variance | Note 3 | 0 | - | 0 |  | - |  | - |
| 2013 | 2013 Contribution Variance | L | 5 | 11,400,601 | 4 |  | 9,457,295 |  | 2,747,566 |
| 2014 | 2014 Contribution Variance | L | 5 | 13,261,033 | 5 |  | 13,261,033 |  | 3,195,933 |
|  | Total Credit Balance |  |  |  |  | \$ | 104,774,106 | \$ | 67,531,997 |
| Total Unfunded Actuarial Accrued Liability |  |  |  |  |  | \$ | 11,267,135,288 | \$ | 1,011,853,415 |

See Exhibit 7-D for notes and explanations.

## Exhibit 7-C

UAL Outstanding Balance and Payment Schedule
Based on June 30, 2013 UAL Schedules

| FY | UAL <br> Outstanding <br> Balance <br> (Millions) | UAL <br> Mid-Year <br> Payments <br> (Millions) | Payment <br> \% | Change | FY <br> Beginning | UAL <br> Outstanding <br> Balance <br> (Millions) | UAL Mid- <br> Year |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Payments <br> (Millions) | Payment <br> \% |  |  |  |  |  |  |
| 2013 | 11,349 | 965 | 2028 | 6,358 | 1,126 | $0.6 \%$ |  |
| 2014 | 11,267 | 1,012 | $4.9 \%$ | 2029 | 5,697 | 775 | $-31.2 \%$ |
| 2016 | 11,117 | 1,011 | $-0.1 \%$ | 2030 | 5,347 | 775 | $0.0 \%$ |
| 2017 | 10,955 | 1,023 | $1.2 \%$ | 2031 | 4,970 | 775 | $0.0 \%$ |
| 2018 | 10,768 | 1,063 | $3.9 \%$ | 2032 | 4,562 | 775 | $0.0 \%$ |
| 2019 | 10,525 | 1,066 | $0.3 \%$ | 2033 | 4,121 | 775 | $0.0 \%$ |
| 2020 | 10,259 | 1,069 | $0.2 \%$ | 2034 | 3,646 | 775 | $0.0 \%$ |
| 2021 | 9,969 | 1,075 | $0.5 \%$ | 2035 | 3,132 | 775 | $0.0 \%$ |
| 2022 | 9,649 | 1,081 | $0.6 \%$ | 2036 | 2,577 | 775 | $0.0 \%$ |
| 2023 | 9,298 | 1,087 | $0.6 \%$ | 2037 | 1,978 | 775 | $0.0 \%$ |
| 2024 | 8,913 | 1,093 | $0.6 \%$ | 2038 | 1,331 | 775 | $0.0 \%$ |
| 2025 | 8,490 | 1,099 | $0.6 \%$ | 2039 | 632 | 520 | $-32.9 \%$ |
| 2026 | 8,026 | 1,106 | $0.6 \%$ | 2040 | 142 | 47 | $-91.0 \%$ |
| 2027 | 7,519 | 1,113 | $0.6 \%$ | 2041 | 105 | 62 | $32.0 \%$ |
|  | 6,964 | 1,119 | $0.6 \%$ | 2042 | 49 | 51 | $-17.4 \%$ |
|  |  |  |  | 2043 | 0 | 0 | $0.0 \%$ |



## Exhibit 7-D

## 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.

Act 497 also revised the provisions regarding amortization of contribution variances. Previously, any contribution variance relative to the actuarially required contribution was amortized with level payments for five years. The Act provides that in any year from plan year 2009/2010 through 2039/2040 that the system receives an overpayment of contributions, the surplus will be credited to the EAAB. The EAAB will then be re-amortized according to the payment schedule specified by the Act. Similarly, any overpayment resulting from the statutory minimum contribution of $15.5 \%$ exceeding the actuarially calculated contribution until plan year 2039/2040 will be credited to the EAAB and the EAAB will be re-amortized.

All schedules were re-amortized, effective July, 1, 2013, using a rate of 8.00\%.

Note 1: Act 497 of 2009 created the Original Amortization Base, effective July 1, 2010, which combines the following schedules shown in Exhibit A-1: 1993 (Initial Liability) 1993 (Change in Liability), 1994-1996, 1998-2000, 2005-2008. The combined balance was reduced by applying funds from the IUAL Fund, excluding the subaccount of this fund. The OAB was reduced by $\$ 100$ Million on June 30, 2013 and reamortized. Annual payments were determined a discount rate of $8.00 \%$. Future payments will increase by $6.5 \%$ for 4 years, then by $2.0 \%$ until paid off in 2029.

Note 2: Act 497 of 2009 created the Experience Account Amortization Base, which combines the following schedules shown in Exhibit A-1: 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. The EAAB was reduced by $\$ 100$ Million on June 30, 2013 and re-amortized. Annual payments were determined a discount rate of $8.00 \%$. Future payments will increase by $6.5 \%$ for 4 years, then will be level until paid off in 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.

## Exhibit 7-E

## Components of Original Amortization Base (Dollar amounts in millions)

|  | Annual Outstanding Balance |  |  |  |  | Annual Payments |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | IUAL | Employer |  |  |  | IUAL | Other Schedules | Employer |  |  |
|  |  | Other Schedules | IUAL <br> Acct | Credit <br> Account | $\begin{aligned} & \text { Total } \\ & \text { OAB } \end{aligned}$ |  |  | IUAL <br> Acct | Credit <br> Account | $\begin{aligned} & \text { Total } \\ & \text { OAB } \\ & \hline \end{aligned}$ |
| 2013 | 6,789.4 | $(3,681.6)$ | (395.9) | (99.2) | 2,612.6 | 570.6 | (309.4) | (33.3) | (8.3) | 219.6 |
| 2014 | 6,739.6 | $(3,654.6)$ | (393.0) | (98.5) | 2,593.4 | 607.7 | (329.5) | (35.4) | (8.9) | 233.8 |
| 2015 | 6,647.2 | $(3,604.5)$ | (387.6) | (97.2) | 2,557.9 | 647.2 | (350.9) | (37.7) | (9.5) | 249.0 |
| 2016 | 6,506.4 | $(3,528.2)$ | (379.4) | (95.1) | 2,503.7 | 689.2 | (373.7) | (40.2) | (10.1) | 265.2 |
| 2017 | 6,310.7 | $(3,422.0)$ | (368.0) | (92.2) | 2,428.4 | 734.0 | (398.0) | (42.8) | (10.7) | 282.5 |
| 2018 | 6,052.7 | $(3,282.1)$ | (353.0) | (88.5) | 2,329.1 | 748.7 | (406.0) | (43.7) | (10.9) | 288.1 |
| 2019 | 5,758.8 | $(3,122.8)$ | (335.8) | (84.2) | 2,216.1 | 763.7 | (414.1) | (44.5) | (11.2) | 293.9 |
| 2020 | 5,425.9 | $(2,942.2)$ | (316.4) | (79.3) | 2,087.9 | 779.0 | (422.4) | (45.4) | (11.4) | 299.8 |
| 2021 | 5,050.4 | $(2,738.6)$ | (294.5) | (73.8) | 1,943.5 | 794.5 | (430.8) | (46.3) | (11.6) | 305.7 |
| 2022 | 4,628.8 | $(2,510.0)$ | (269.9) | (67.7) | 1,781.2 | 810.4 | (439.5) | (47.3) | (11.8) | 311.9 |
| 2023 | 4,156.8 | $(2,254.1)$ | (242.4) | (60.8) | 1,599.6 | 826.6 | (448.3) | (48.2) | (12.1) | 318.1 |
| 2024 | 3,630.3 | $(1,968.6)$ | (211.7) | (53.1) | 1,397.0 | 843.2 | (457.2) | (49.2) | (12.3) | 324.5 |
| 2025 | 3,044.5 | $(1,650.9)$ | (177.5) | (44.5) | 1,171.6 | 860.0 | (466.4) | (50.2) | (12.6) | 330.9 |
| 2026 | 2,394.3 | $(1,298.3)$ | (139.6) | (35.0) | 921.3 | 877.2 | (475.7) | (51.2) | (12.8) | 337.6 |
| 2027 | 1,674.2 | (907.8) | (97.6) | (24.5) | 644.2 | 894.8 | (485.2) | (52.2) | (13.1) | 344.3 |
| 2028 | 878.2 | (476.2) | (51.2) | (12.8) | 337.9 | 912.7 | (494.9) | (53.2) | (13.3) | 351.2 |
| 2029 | - | - | - | - | - | - | - | - | - | - |

This table has changed from previously published tables. Previous annual payments were determined using the prior discount rate of $8.25 \%$. The Outstanding balance of the OAB was reduced by $\$ 100$ Million on June 30, 2013 and re-amortized, according to Act 497 of 2010. All re-amortized payments were based on the 8.00\% discount rate.

## 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.

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 in the system such as retirement, disability, withdrawal, or death.

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

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.

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 funding 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.

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 annual cost of benefits is comprised of two components: normal cost plus an amortization payment to reduce the unfunded actuarial accrued liability.

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 each time an actuarial loss occurs and when new benefits are added without being fully funded initially and decreases when actuarial gains occur.

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.


[^0]:    1 Total Normal Cost excludes projected administrative expenses beginning June 30, 2013. Employer normal cost has historically excluded administrative expenses so this is a reporting change, not a funding change.
    2 Includes pending Retirement/DROP applications.
    ${ }^{3}$ Includes terminated employee and rehired retiree contributions to be refunded.

[^1]:    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 The ORP salary adjustment factor is used to convert amortization payments to percentage of payroll.

[^2]:    1 Yield values exclude DROP account assets invested in Money Market accounts.

[^3]:    1 Includes Miscellaneous Contribution/Income in addition to direct employer contributions.
    2 Includes $\$ 26,400,000$ legislative appropriation from Act 642 of 2006.
    ${ }^{3}$ Includes $\$ 40,000,000$ legislative appropriation from Act 7 of 2008 (2 ${ }^{\text {nd }}$ Extraordinary Session).
    4 Includes OPEB expense, beginning in 2008.

[^4]:    ${ }^{1}$ Members employed by Lab Schools were reclassified as Regular Teachers for purposes of the actuarial valuation beginning in 2013. These members were previously included with Higher Education.

[^5]:    ${ }^{1}$ June 30, 2013 census data included members pending retirement on June 30, 2013 with a retirement date prior to June 30, 2013. June 30, 2012 data did not include members pending retirement on June 30, 2012.

[^6]:    AVERAGES

    | Attained Age | 63.38 |
    | :--- | ---: |
    | Service Years | 32.90 |
    | Active Salary | 22,442 |

[^7]:    $\begin{array}{llll}\text { AVERAGES } & --\quad \text { Attained Age } & 51.12 \\ & & \text { Service Years } & 10.07\end{array}$
    Active Salary 18,534

[^8]:    AVERAGES --- Attained Age 64.97
    $\begin{array}{lr}\text { Years Retired } & 14.48 \\ \text { Annual Benefit } & 11,560\end{array}$

[^9]:    AVERAGES --- Attained Age 69.37
    $\begin{array}{lr}\text { Years Retired } & 10.94 \\ \text { Annual Benefit } & 17,326\end{array}$

[^10]:    AVERAGES -- Attained Age 47.83
    $\begin{array}{lr}\text { Service Years } & 9.83 \\ \text { Annual Benefit } & 8,571\end{array}$

