Gabriel Roeder Smith & Company
Consultants & Actuaries

TEACHER RETIREMENT SYSTEM OF TEXAS

ACTUARIAL VALUATION REPORT
FOR THE YEAR ENDING AUGUST 31, 2011

GRS
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November 1, 2011

Board of Trustees
Teacher Retirement System of Texas
1000 Red River Street
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Subject: Actuary's Certification of the Actuarial Valuation as of August 31, 2011

We certify that the information included herein and contained in the 2011 Actuarial Valuation Report is accurate and fairly presents the actuarial position of the Teacher Retirement System of Texas (TRS) as of August 31, 2011.

All calculations have been made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, the results presented comply with the requirements of the Texas statutes and, where applicable, the Internal Revenue Code, ERISA, and the Statements of the Governmental Accounting Standards Board. The undersigned are independent actuaries. Mr. White and Mr. Newton are members of the American Academy of Actuaries, and are also Enrolled Actuaries. All are experienced in performing valuations for large public retirement systems.

Actuarial Valuations

The primary purpose of the valuation report is to determine the adequacy of the current State contribution rate through measuring the resulting funding period, to describe the current financial condition of the System, and to analyze changes in the System's condition. In addition, the report provides information required by the System in connection with Governmental Accounting Standards Board Statement No. 25 (GASB No. 25), and it provides various summaries of the data.

Valuations are prepared annually, as of August 31 of each year, the last day of the System's plan and fiscal year.

Financing Objective of the Plan

Contribution rates are established by Law that, over time, are intended to remain level as a percent of payroll. The employee and State contribution rates are set by Law. The actuarially determined contribution rates determined in this actuarial valuation are intended to provide for the normal cost plus the level percentage of payroll required to amortize the unfunded actuarial accrued liability over a period not in excess of 30 years.

Progress Toward Realization of Financing Objective

The actuarial accrued liability, the unfunded actuarial accrued liability (UAAL), and the calculation of the resulting funding period illustrate the progress toward the realization of financing objectives. Based on this actuarial valuation as of August 31, 2011, the System's under-funded status has increased to $24.1 billion from $22.9 billion as of August 31, 2010. This increase in the UAAL is due to a loss on the actuarial value of assets of the System.

This valuation shows a normal cost equal to 10.60% of pay. The State set its contribution rate to 6.00% of pay as of September 1, 2011, which combined with the member contribution rate of 6.40% of pay provides a total contribution rate of 12.40% of pay. Therefore, there is 1.80% of pay available to amortize the UAAL. If payroll grows as expected, the contributions provided by this portion of the contribution rate are insufficient to amortize the current unfunded actuarial accrued liabilities of the System over any period of time (i.e. the funding period is never). Although the state contribution is scheduled to increase to 6.40% in fiscal year 2013, if the current assumptions are met (the trust earns an average 8.0% per annum) and the current 6.40% member contribution rate and the State fiscal year 2013 contribution rate of 6.40% continue, the fund is projected to remain solvent until the year 2075, after which the funding would return to a pay-as-you-go status. Therefore, for the current benefit structure to be sustainable, the contribution levels will need to be increased if all of the current assumptions are met.

The actuarial valuation report as of August 31, 2011 reveals that while the System has an unfunded liability of $24.1 billion, it still has a funded ratio (the ratio of actuarial assets to actuarial accrued liability) of 82.7%. However, because of the significant shortfall in investment income in FY2009, the System is still deferring net investment losses of $7.8 billion compared to the last valuation when the System was deferring $15.6 billion in deferred losses and the funded status using the market value of assets is only 77.1%. If there are no significant investment gains or other actuarial gains over the next several years, the funded status of the System would be expected to decline towards this number.

The System earned a 15.5% return on a dollar-weighted market value of assets basis for the plan year ending August 31, 2011, net of expenses. The System experienced a loss on the actuarial value of assets of $2.0 billion and a gain on the actuarial liabilities of $1.4 billion and a gain due to assumption change of $0.3 billion for a total experience related loss of $0.3 billion.

In the absence of significant actuarial gains in the near future, the contribution rate needed to amortize the UAAL over 30 years will increase over the next few valuation cycles.

Plan Provisions

The plan provisions used in the actuarial valuation are described in Table 21 of the valuation report. There have been no changes to the benefit provisions of the System since the prior valuation.

Disclosure of Pension Information

Effective for the fiscal year ending August 31, 1996, the Board of Trustees adopted compliance with the requirements of Governmental Accounting Standards Board (GASB) Statement No. 25. The required disclosure information is included in the body of the valuation report.

This report should not be relied on for any purpose other than the purpose described above. Determinations of the financial results associated with the benefits described in this report in a manner other than the intended purpose may produce significantly different results.

Actuarial Methods and Assumptions

The actuarial methods and assumptions have been selected by the Board of Trustees of the Teacher Retirement System of Texas based upon our analysis and recommendations. These assumptions and methods are detailed in Table 22 of the valuation report. The Board of Trustees has sole authority to determine the actuarial assumptions used for the plan. The actuarial methods and assumptions are based on a study of actual experience for the four year period ending August 31, 2010 and were adopted on April 8, 2011.

The following assumptions and methods have been modified since the prior valuation:

- Small reductions in the rates of retirement at most age and service combinations
- Decrease in the post-retirement rates of mortality for both males and females
- The salary increase assumption in the first year of employment was reduced
- The method for determining the actuarial value of assets was modified to a method that sets the actuarial value of assets as the expected actuarial value of assets plus 20% of the difference between the actual market value of assets and the expected actuarial value of assets

The results of the actuarial valuation are dependent on the actuarial assumptions used. Actual results can and almost certainly will differ, as actual experience deviates from the assumptions. Even seemingly minor changes in the assumptions can materially change the liabilities, calculated contribution rates and funding periods. The actuarial calculations are intended to provide information for rational decision making.

In our opinion, the actuarial assumptions used are appropriate for purposes of the valuation and are internally consistent and reasonably related to the experience of the System and to reasonable expectations. The actuarial assumptions and methods used in this report comply with the parameters for disclosure that appear in GASB 25.

Data

In preparing the August 31, 2011 actuarial valuation, we have relied upon member and asset data provided by the Teacher Retirement System of Texas. We have not subjected this data to any auditing procedures, but have examined the data for reasonableness and for consistency with prior years' data.

The schedules shown in the actuarial section and the trend data schedules in the financial section of the TRS financial report include selected actuarial information prepared by TRS staff. Six year historical information included in these schedules was based upon our work. For further information please see the full actuarial valuation report.

Respectfully submitted,
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SECTION A

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

While the market return on assets exceeded the 8.0% return assumption in fiscal year 2011, the investment losses from fiscal year 2009 continue to impact the outlook of the System. The actuarial valuation of the Teacher Retirement System of Texas (TRS) as of August 31, 2011, indicates that the System's unfunded actuarial accrued liability (UAAL) has increased since the prior valuation from $22.9 billion in 2010 to $24.1 billion in 2011. As such, the current contribution rate continues to be insufficient to amortize the unfunded actuarial accrued liabilities of the System.

In addition, without significant actuarial gains in the near future, the calculated contribution rate (currently 8.13%) will increase over the next several valuations as the deferred investment losses are recognized through the smoothing process. Currently the contribution rate is projected to increase to 9.40%, the same rate as the ARC determined using the market value of assets.

We recommend that any benefit enhancements be fully funded by separate appropriation on their own merit, rather than adding new unfunded liabilities to the System. The key results of this valuation as of August 31, 2011, may be summarized as follows.

Item	2011	2010
Membership		
• Number of		
- Active members	828,919	834,060
- Service retirees	292,838	277,088
- Disabled retirees	8,785	8,677
- Beneficiaries	11,057	10,726
- Inactive, vested	64,703	61,502
- Inactive, nonvested	110,264	108,627
- Total	1,316,566	1,300,680
• Payroll	$ 36.797 billion	$ 36.629 billion
Statutory contribution rates		
• State *	6.000%	6.644%
• Member	6.400%	6.400%
Actuarial Information		
• Normal cost %	10.60%	10.42%
• Unfunded actuarial accrued liability (UAAL)	$ 24.062 billion	$ 22.899 billion
• UAAL as % of pay	65.4%	62.5%
• Funded ratio	82.7%	82.9%
• Funding period (years)	Never	Never
• GASB Annual Required Contribution (30 Year Amortization based on the Actuarial Value of Assets)	8.13%	7.77%

* The State contribution rate for FY2012 is set at 6.00% and is scheduled to increase to 6.40% for FY2013 and thereafter

EXECUTIVE SUMMARY

Item	2011	2010
Assets		
• Market value	$ 107.421 billion	$ 95.688 billion
• Actuarial value	$ 115.253 billion	$ 111.293 billion
• Estimated yield on market value	15.5%	10.7%
• Estimated yield on actuarial value	6.2%	6.9%
• Ratio of actuarial to market value	107.3%	116.3%
• Employee contributions, including service purchases	$ 2,353.1 million	$ 2,289.5 million
• State contributions	1,934.9 million	1,885.7 million
• Employer contributions	416.0 million	412.3 million
• Benefit, refund, and expense payments	7,849.8 million	7,076.4 million
• Net external cash flow	(3,145.8) million	(2,488.9) million
Gains/(losses)		
• Asset experience	$ (1,958.0) million	$ (1,160.9) million
• Assumption changes/Legislative changes	271.0 million	0.0 million
• Liability experience	1,350.4 million	704.7 million
• Total	$ (336.6) million	$ (456.1) million
Actuarial Information based on Market Value of Assets		
• Unfunded actuarial accrued liability (UAAL)	$ 31,894 million	38,503 million
• UAAL as % of pay	86.7%	105.1%
• Funded ratio	77.1%	71.3%
• Funding period (years)	Never	Never
• GASB Annual Required Contribution	9.40%	10.33%

Item	UAAL ($ Millions)	Funding Period	GASB ARC
(1)	(2)	(3)	(4)
1. 2010 Valuation	$22,899	Never	7.77%
2. Restated 2010 Valuation with assumption changes*	22,628	Never	7.92%
3. Expected 2011 UAAL using expected contributions*	23,439	Never	7.98%
4. Expected 2011 UAAL using actual contributions*	23,726	Never	8.02%
5. 2011 UAAL using expected assets and actual liabilities	22,104	Never	7.76%
6. 2011 UAAL recognizing past deferred asset gains/(losses)	25,475	Never	8.30%
7. 2011 UAAL using actual assets and liabilities, expected payroll	24,062	Never	8.08%
8. 2011 UAAL using actual payroll	24,062	Never	8.19%
9. 2011 UAAL reamortizing to 30 years	24,062	Never	8.13%
10. 2011 UAAL change to contribution rate	24,062	Never	8.13%

* The funding period for this entry uses the expected UAAL based on 30 year required contribution and expected payroll. The expected payroll is the prior year's valuation payroll, rolled forward at the 3.5% payroll growth rate.

SECTION B

INTRODUCTION

INTRODUCTION

The valuation of the Teacher Retirement System of Texas (TRS) as of August 31, 2011, reflects the following contribution rates: (a) a member contribution rate of 6.40%, and (b) a State contribution rate of 6.00% (effective September 1, 2011). For purposes of determining the funding period, it was assumed that the current (6.00%) State contribution rate would remain in place for FY2012 and then increase to 6.40% indefinently.

In preparing this valuation, Gabriel, Roeder, Smith & Company (GRS) has relied on employee data and asset information provided by the staff of the Teacher Retirement System. While not verifying the data at their source, GRS has performed such tests for consistency and reasonableness as has been deemed necessary to be satisfied with the appropriateness of using the data supplied.

Section A contains an executive summary of the most significant valuation results. The basic results of the valuation are covered in Section C. Section D contains the necessary disclosure items required by the Governmental Accounting Standards Board (GASB). Section E provides analysis and discussion of changes in assets. Section F produces a determination of actuarial gains and losses for the year and an analysis of the change in the funding period since the prior year's valuation. Section G summarizes the findings of the valuation, and Section H provides the tables supporting the report.

There have been no changes in the benefit provisions of TRS since the prior valuation.

This valuation utilizes actuarial assumptions and methods modified as a result of the Experience Study for the four-year period ending August 31, 2010. These assumptions and methods were adopted by the Board on April 8, 2011.

SECTION C

FUNDED STATUS OF THE SYSTEM

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FUNDED STATUS OF THE SYSTEM

Table 3 in Section H details the normal cost of the Retirement System by its various components. This normal cost is developed based on the valuation method known as the entry-age-normal actuarial cost method. The total normal cost for the Retirement System is 10.60% of pay, this amount being inclusive of the amount contributed by the employees. Thus, the net normal cost for the State is 4.20% of pay based on the member contribution rate of 6.40%.

Since the State contribution rate is 6.00%, this allows 1.80% of pay contributed by the State to be available to amortize any unfunded actuarial accrued liabilities.

As stated above, the funding period for the System is determined under the entry-age-normal actuarial cost method based on a level percentage of pay. The key points of this method are as follows:

1. The "normal cost" for the System is deemed to be equal to the average cost of benefits for newly hired participants.

2. The "actuarial accrued liability" for benefits payable in the future to present active members is calculated as the present value of benefits payable in the future to present active members less the present value of future normal costs.

3. Funding of the unfunded actuarial accrued liability (UAAL) is a function of the rate of future growth in total covered payroll.

Table 5 develops the funding period under the above approach not only for the current valuation, but also for the valuation as of August 31, 2010. As shown in Item A3 of Table 5, the normal cost for the System consists of the entire 6.40% of pay contributed by the members plus 4.20% of pay from the State. As developed in Item A4, the 6.00% of pay contributed by the State is 1.80% of pay more than the State's share of the normal cost. From an actuarial perspective, the contribution rate in excess of the System's normal cost should be sufficient to amortize the UAAL over a reasonable period of time. The current contribution rate in excess of the System's normal cost (1.80%) is insufficient to amortize the System's UAAL. If the member rate remains unchanged, the State rate would need to increase to 8.13% to amortize the UAAL over a period of 30 years.

The 2012/2013 General Appropriations Act provided for a State contribution rate of 6.0% for the 2012 fiscal year and a 6.40% State contribution rate for fiscal year 2013. The increase to the State's contribution rate in the second year of the biennium is a positive for the System actuarially. However, the ARC of 8.13% is still not being met and the funding period based upon the 6.40% contribution rate continues to be "Never".

Table 2 provides an overall summary of key actuarial data for the 2011 valuation, with comparative data for 2010. This information is summarized from the other tables, which supply more detail. Its value is in providing in one convenient place key comparative valuation results.

Table 7 offers a comparative view of the unfunded actuarial accrued liability (UAAL). It compares the UAAL with three items: the covered payroll for the year, the total actuarial value of assets at the end of the year, and the total actuarial liabilities (or, equivalently, the total present value of future benefits) as of the valuation date.

The UAAL as shown in Item B4 of Table 5 is $24.1 billion for 2011, an increase from $22.9 billion in 2010. As indicated in the table, the UAAL equals the difference between the total actuarial accrued liability (Item B2d) and current actuarial assets (Item B3). The excess contributions above the normal cost will be used to help reduce the UAAL. Even though the System exceeded its assumed rate of return assumption on a market value basis, as a result of the significant shortfall in investment income in fiscal year 2009, the System is still deferring $7.8 billion in net investment losses (the difference between the market value of assets and the actuarial value of assets). In the absence of a significant recovery in the investment markets, the UAAL should increase over the next several valuations.

In determining the number of years that will be required to amortize the UAAL, an assumption is made concerning future growth of the payroll of the System. GASB Statement No. 25 requires that the payroll growth assumption not consider growth in the active employee census. Under GASB 25 the appropriate payroll growth assumption is 3.50%.

As shown in Item B6 of Table 5 and using the assumed rate of increase in covered payroll of 3.50%, the period to fund the UAAL is "Never". An analysis of the change in the UAAL and the funding period since the 2010 valuation is provided in Section F.

The actuarial value of assets is developed in Tables 4. It should be remembered that the intent of the actuarial asset valuation method is to smooth out year-to-year fluctuations in market rates of return. The Board adopted a new actuarial asset method effective for this valuation. The new asset method determines the expected actuarial value of assets and then recognizes 20% of the difference between that expected actuarial value of assets and the actual market value of assets.

While the design of the actuarial asset valuation method is to smooth out year-to-year fluctuations in market rates of return, the method is also designed to not allow the actuarial value of assets to drift too far from the actual market value of assets. To accomplish this goal, a corridor is established around the market value of assets (not less than 80% or more than 120% of the market value of assets). If the actuarial value of assets using the smoothing technique produces a preliminary actuarial value of assets that is outside of the corridor, then there is some advanced recognition of the deferred losses outside corridor threshold.

The preliminary actuarial value of assets is $115.3 billion as shown in Item 8 of Table 4. This number is equal to 107.3% of the market value of assets. Since this lies within our 80% - 120%

corridor, the preliminary actuarial value of assets becomes the final actuarial value of assets, as shown in Item 10 of Table 4.

Under the asset smoothing methodology, as may be seen by looking at the difference between Items 5 and 10 of Table 4, the AVA methodology is deferring net investment losses. This means that the System could experience losses on the actuarial value of assets in the near future. If the investment markets do not provide offsetting investment gains in the near future, these losses could be significant. The actuarial asset yield for 2011 is 6.2%, lower than the assumed rate of 8.0%. The market return for fiscal year 2011 was 15.5%.

As noted above, the System has an infinite funding period. The System has an unfunded liability of $24.1 billion, and $7.8 billion in net deferred investment losses. Without offsetting actuarial gains, the 30 year ARC is expected to increase over the next several valuations.

SECTION D

GASB DISCLOSURE

GASB DISCLOSURE

The Governmental Accounting Standards Board (GASB) has issued Statement No. 25 which provides the manner in which the actuarial condition of a public sector retirement plan is to be disclosed and which replaces GASB No. 5.

TRS elected to comply with GASB No. 25 beginning with the fiscal and plan year ending August 31, 1996. The required actuarial disclosure tables are represented by Tables 14a – 14c.

GASB No. 25 provides for a calculation of an annual required contribution (ARC). The ARC for TRS is the amount necessary to pay the normal cost and amortize the unfunded liabilities of the System over a period of 30 years. For the 2011 valuation, it is 8.13% of pay for the 2011/2012 plan year. It should also be noted that the 8.13% ARC assumes a member contribution rate of 6.40%.

TRS's auditors consider TRS a "special situation multi-employer plan" under GASB 27, and the State has established a Net Pension Obligation. The State's 2011/2012 fiscal year should reflect the difference between its 6.00% contribution rate and the 8.13% ARC.

SECTION E

CHANGE IN ASSETS DURING THE YEAR

CHANGE IN ASSETS DURING THE YEAR

This section provides an analysis of the change in the Plan Net Assets during the year and an estimate of the yield on mean assets of the total System. Table 8a shows a rearrangement of some of the tables included in the annual financial statements of the System. Table 8b shows the estimated yield on a market value basis and on the actuarial asset valuation method.

To determine estimated yield on "mean assets", the traditional insurance company formula for yield rates is used. The estimated yield is derived by dividing the appropriate income by the corresponding mean assets. This is a “dollar weighted” rate of return, and will differ slightly from the “time weighted” return shown in the System’s CAFR.

As indicated by Item A4 of Table 8b, the estimated yield on mean market value is 15.5%, following a 10.7% return in 2010. The actuarial asset yield (Item B4) is 6.2%, compared to 6.9% in 2010, and compared to the 8% assumption rate. This difference in the estimated yield on market value and actuarial value illustrates the smoothing effect of the asset valuation method.

As noted earlier in the report, in conjunction with the experience study the Board adopted a new method for determining the actuarial value of assets effective with this valuation. If the prior method has still been in place then the actuarial value of assets would have been $112.0 billion, compared to the $115.3 billion used in the valuation under the new method.

As mentioned in Section C, the investment results on an actuarial value basis are unfavorable for the 2010/2011 plan year. On an actuarial value basis the System is below its 8% assumption rate by 1.8%. As a result, the System had an actuarial investment loss of $2.0 billion. It should also be noted that the asset valuation method is still deferring $7.8 billion in unrecognized net losses into future years. These deferred losses will be recognized over future actuarial valuations. In the absence of offsetting gains, these losses will reduce the funded status of the System.

SECTION F

ACTUARIAL GAINS (LOSSES) AND THE FUNDING PERIOD

ACTUARIAL GAINS (LOSSES) AND THE FUNDING PERIOD

Section C has noted that the unfunded actuarial accrued liability (UAAL) has increased from $22.9 billion in 2010 to $24.1 billion in 2011. The System's funding period remains at "Never" in 2011. The purpose of this section is to determine the source of the gains and losses and the impact of those gains and losses on the funding period.

Section E has discussed the change in assets for the year. Table 4 takes the information contained in Table 8 and develops the actuarial assets for this valuation, based on the investment return assumption of 8%. Table 8b develops the estimated yield for the year based on two measures of asset values.

As shown in Table 4, the expected value of actuarial assets as of August 31, 2011 is $117.2 billion, the actual value of actuarial assets as of the valuation date is $115.2 billion. Thus the asset loss for the year is the difference between the actual value and the expected value, or $2.0 billion (as shown in Item 11). Item 12 indicates that this loss represents 1.7% of this year's actuarial assets. This asset loss for the year is a direct reflection of the estimated yield for the year based on the value of actuarial assets, namely 6.2% (as shown in Item B4 of Table 8b).

Table 9 develops the total actuarial gain (loss) for the year and separates it between the asset gain (loss) and the liability gain (loss). The items in Table 9 that are used to develop the expected UAAL as of August 31, 2011 are derived from Table 5 and Table 8. The total actuarial loss for the year is seen to be $0.3 billion, compared to the 2010 loss of $0.5 billion.

The $2 billion asset loss for the year was significantly offset by overall gains associated with liabilities as shown in Item B3 of Table 9. The liability gain is comprised of a gain of $0.3 billion due to the assumption changes this year and an actuarial liability experience gain of $1.4 billion. The most significant source of liability gains came from individual salary increases being less than expected by the current actuarial assumptions.

Table 10 traces the changes in the UAAL and the funding period from the valuation as of August 31, 2010, to August 31, 2011.

Item 4 of Table 10 shows the funding status if there had been no actuarial gains or losses in the areas of assets, liabilities, and reflecting the actual State contributions for the 2010/2011 plan year. The UAAL would have increased during the year to $23.7 billion.

Item 5 of Table 10 illustrates that the liability experience gain decreased the UAAL to $22.1 billion but that the prior years investment experience, as shown in Items 6 and 7, increased the UAAL to $24.1 billion. If the funding period were calculable, Item 8 would show the impact on the funding period of the covered compensation growing at a lower rate than the assumed rate of 3.5%.

Column 7 traces the change in the GASB Annual Required Contribution (ARC) from the valuation as of August 31, 2010 to August 31, 2011. The ARC has increased from 7.77% to 8.13%.

What Table 10 illustrates is that the 2011 investment performance combined with the prior years' performance produces an asset loss on the actuarial assets that increased the UAAL from an expected $22.1 billion to $24.1 billion.

SECTION G

SUMMARY AND CLOSING COMMENTS

SUMMARY AND CLOSING COMMENTS

The results of the actuarial valuation of the Teacher Retirement System as of August 31, 2011 show positive results. While the UAAL only increased from last year to this year by $1.2 billion and the GASB ARC increased to 8.13% based on the actuarial or smoothed value of assets, the UAAL and contribution requirement actually decreased when measured based on the market value of assets.

However, the funding period based on the current 6.00% contribution rate (and even based on the fiscal year 2013 rate of 6.40%) continues to be "Never".

Even though the System recognized a $2.0 billion asset loss this year, there are still $7.8 billion in deferred investment losses to be recognized in future valuations. Therefore, the contribution rate will need to increase in order to sustain the current benefit structure over the long term if all current assumptions are met.

While the System's funded status is 82.7% on actuarial basis, the funded status using the market value of assets is only 77.1%. If there are no significant investment gains or other actuarial gains over the next several years, the funded status of the System would be expected to decline towards this number.

As stated previously, the ARC (8.13%) is now greater than the current contribution rate being made by the State (6.00%). Further, if the ARC were calculated using the market value of assets, the ARC would be 9.40% (if the member rate remains 6.40%). In the absence of significant actuarial gains, the ARC will increase towards this number over the next several valuations.

Given this outlook, we recommend the Legislature begin making moderate increases in the contribution rates (state, member, or both).

SECTION H

ACTUARIAL TABLES

ACTUARIAL TABLES

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ACTUARIAL PRESENT VALUE OF FUTURE BENEFITS

	August 31, 2011 (1)	August 31, 2010 (2)
A. Present Value of Benefits Presently Being Paid:		
1. Service retirement benefits	$ 61,583,573,864	$ 56,633,460,577
2. Disability retirement benefits	909,607,883	891,512,713
3. Death benefits	769,355,667	754,052,179
4. Present survivor benefits	207,631,666	197,246,581
5. Total present value of benefits presently being paid	$ 63,470,169,080	$ 58,476,272,050
B. Present Value of Benefits Payable In the Future To Present Active Members:		
1. Service retirement benefits	$ 95,886,611,576	$ 95,802,642,330
2. Disability retirement benefits	1,343,397,174	1,265,949,485
3. Termination benefits	6,952,317,408	6,067,357,073
4. Death and survivor benefits	1,744,820,375	1,513,834,539
5. Total active member liabilities	$ 105,927,146,533	$ 104,649,783,427
C. Present Value of Benefits Payable In the Future To Present Inactive Members:		
1. Inactive vested participants		
a. Retirement benefits	$ 2,221,502,905	$ 1,798,775,860
b. Death benefits	128,252,686	122,792,410
c. Total inactive vested benefits	$ 2,349,755,591	$ 1,921,568,270
2. Refunds of contributions to inactive nonvested members	311,886,726	294,211,296
3. Future survivor benefits payable on behalf of present annuitants	1,145,189,668	1,103,421,506
4. Total inactive liabilities	$ 3,806,831,985	$ 3,319,201,072
D. Total Actuarial Present Value of Future Benefits:	$ 173,204,147,598	$ 166,445,256,549

SUMMARY OF COST ITEMS

	Valuation as of August 31, 2011		Valuation as of August 31, 2010	
	Cost Item	Cost as % of Pay	Cost Item	Cost as % of Pay
	(1)	(2)	(3)	(4)
1. Participants				
a. Active contributing members				
1. Not in DROP	798,308		798,775	
2. In DROP	324		466	
b. Active noncontributing members				
1. Assumed to be active	10,955		10,720	
2. Assumed to be inactive vested	33,090		32,463	
3. Assumed to be inactive nonvested	65,500		64,020	
4. Total	109,545		107,203	
c. New entrants missing data	19,332		24,099	
d. Active subtotal	927,509		930,543	
e. Inactive members w/deferred benefits	31,613		29,039	
f. Retired members and beneficiaries	312,680		296,491	
g. Subtotal, members	1,271,802		1,256,073	
h. Inactive nonvested members due refunds	44,764		44,607	
i. Total membership	1,316,566		1,300,680	
2. Covered Payroll	$ 36,797,010,751		$ 36,628,844,127	
3. Average for Active Members				
a. Average age	44.3		44.2	
b. Average years of service	9.9		9.7	
c. Average pay	$ 44,392		$ 43,916	
4. Present Value of Future Pay	$ 319,708,085,291		$ 309,540,751,575	
5. Normal Cost Rate				
a. Gross normal cost	10.60%		10.42%	
b. Less employee contribution rate	(6.40%)		(6.40%)	
c. State normal cost	4.20%		4.02%	
6. Present Value of Future Benefits				
a. Retired members - in pay or deferred	$ 63,470,169,080		$ 58,476,272,050	
b. Retired members - future survivor benefits	1,145,189,668		1,103,421,506	
c. Vested inactive members	2,349,755,591		1,921,568,270	
d. Active members	105,927,146,533		104,649,783,427	
e. Inactive nonvested members	311,886,726		294,211,296	
f. Total	$ 173,204,147,598	470.7%	$ 166,445,256,549	454.4%
7. Present Value of Future Normal Costs (employee plus employer)	$ 33,889,057,041	92.1%	$ 32,254,146,314	88.1%
8. Actuarial Accrued Liability	$ 139,315,090,557	378.6%	$ 134,191,110,235	366.4%
9. Actuarial Value of Assets	$ 115,252,828,399	313.2%	$ 111,292,527,887	303.8%
10. Unfunded Actuarial Accrued Liability	$ 24,062,262,158	65.4%	$ 22,898,582,348	62.5%
11. Employer Contribution Rate (FY2012)	6.000%		6.644%	
12. Funding Period	Never		Never	
13. Estimated Yield on Actuarial Assets	6.2%		6.9%	
14. GASB 25 Funded Ratio	82.7%		82.9%	
15. GASB Annual Required Contribution Rate (ARC) for State	8.13%		7.77%	

ANALYSIS OF NORMAL COST BY COMPONENT

Benefit Component	8/31/2011 Cost as % of Pay	8/31/2010 Cost as % of Pay
(1)	(2)	(3)
1. Normal Cost		
a. Retirement Benefits	7.63%	7.71%
b. Disability Benefits	0.18%	0.17%
c. Death Benefits (including survivor benefits)	0.34%	0.30%
d. Termination benefits	2.45%	2.24%
e. Total	10.60%	10.42%
2. Employee Contribution Rate	(6.40%)	(6.40%)
3. State Normal Cost (Item 1e - Item 2)	4.20%	4.02%

DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS

Item	Plan Year Ending August 31, 2011	Plan Year Ending August 31, 2010
(1)	(2)	(3)
1. Actuarial value of assets, beginning of year	$ 111,292,527,887	$ 106,383,566,018
2. Cash flow during the year		
a. Contritution	$ 4,704,016,139	$ 4,587,520,751
b. Benefits Paid	(7,175,255,376)	(6,669,304,862)
c. Refund Paid	(399,040,901)	(265,186,589)
d. Total	$ (2,870,280,138)	$ (2,346,970,700)
3. Expected net investment income at 8% earned on:		
a. Actuarial value of assets, beginning of year	$ 8,903,402,231	$ 8,510,685,281
b. Contributions	188,160,646	183,500,830
c. Benefits	(287,010,215)	(266,772,194)
d. Refunds	(15,961,636)	(10,607,464)
e. Total	8,788,591,026	8,416,806,453
4. Expected actuarial value of assets, end of year	$ 117,210,838,775	$ 112,453,401,771
5. Market value of plan net assets, end of year	$ 107,420,786,893	$ 95,688,405,009
6. Difference between expected actuarial assets and market value of assets (Item 5 - Item 4)	$ (9,790,051,882)	NA
7. Excess/(shortfall) recognized (20% of Iterm 6)	$ (1,958,010,376)	NA
8. Preliminary actuarial value of plan assets, end of year (Item 4 + Item 7)	$ 115,252,828,399	$ 111,292,527,887
9. Actuarial value of assets corridor		
a. 80% of market value, end of year	$ 85,936,629,514	$ 76,550,724,007
b. 120% of market value, end of year	$ 128,904,944,272	$ 114,826,086,011
10. Final actuarial value of plan net assets, end of year (Item 8, but recognize 1/3 of any deferred gains or losses outside of 9)	$ 115,252,828,399	$ 111,292,527,887
11. Asset gain (loss) for year (Item 10 - Item 4)	$ (1,958,010,376)	$ (1,160,873,884)
12. Asset gain (loss) as % of actual actuarial assets	(1.70%)	(1.04%)

The method for determining the AVA changed between the 2010 and 2011 valuations and some of the steps in determining the AVA are different. As such, items 6 and 7 are not applicable in the 2010 column.

DEVELOPMENT OF YEARS TO FUND THE UNFUNDED ACTUARIAL ACCRUED LIABILITY

	As of August 31, 2011 (1)	As of August 31, 2010 (2)
A. Basic Data		
1. Covered payroll	$ 36,797,010,751	$ 36,628,844,127
2. Present value of future pay	$ 319,708,085,291	$ 309,540,751,575
3. Normal cost rate of benefits		
a. Total normal cost rate	10.60%	10.42%
b. Less employee contribution rate	(6.40%)	(6.40%)
c. State normal cost rate	4.20%	4.02%
4. State contribution rate for funding unfunded actuarial accrued liability		
a. Total State contribution rate	6.000%	6.644%
b. Less State normal cost rate	(4.200%)	(4.020%)
c. State contribution rate available	1.800%	2.624%
5. Actuarial accrued liability for present active members		
a. Present value of benefits payable in the future to present members	$ 105,927,146,533	$ 104,649,783,427
b. Less present value of future normal costs	(33,889,057,041)	(32,254,146,314)
c. Actuarial accrued liability	$ 72,038,089,492	$ 72,395,637,113
B. Development of Funding Period		
1. Normal cost		
a. Employee normal cost (Item A3b x Item A1)	$ 2,355,008,688	$ 2,344,246,024
b. State normal cost (Item A3c x Item A1)	1,545,474,452	1,472,479,534
c. Total normal cost	$ 3,900,483,140	$ 3,816,725,558
2. Total actuarial accrued liability		
a. Present value of benefits presently being paid	$ 63,470,169,080	$ 58,476,272,050
b. Actuarial accrued liability for present active members (Item A5c)	72,038,089,492	72,395,637,113
c. Present value of benefits for inactive members	$ 3,806,831,985	$ 3,319,201,072
d. Total	$ 139,315,090,557	$ 134,191,110,235
3. Current actuarial assets	115,252,828,399	111,292,527,887
4. Unfunded actuarial accrued liability (UAAL) (Item B2d - Item B3)	$ 24,062,262,158	$ 22,898,582,348
5. Amount of State contribution available to fund unfunded actuarial accrued liability (Item A4c x Item A1)	$ 662,346,194	$ 961,140,870
6. Years to fund unfunded actuarial accrued liability	Never	Never
Rate of Increase in Covered Payroll		
0.00%	Never	Never
3.00%	Never	Never
3.50%	Never	Never
4.25%	Never	55.5
6.00%	64.2	32.8
7. Annual Required Contribution Rate (ARC) (Normal cost + 30-year amortization of UAAL)	8.13%	7.77%

GROWTH OF COVERED PAYROLL AND ACTIVE MEMBERS

	Covered Payroll		Active Members			Average Salary		
Year Ending August 31,	Amount in $ Millions	Percent Increase	Number	Percent Increase	Compound Increase Between Year Indicated and 08-31-2011	Average Salary	Percent Increase	Compound Increase Between Year Indicated and 08-31-2011
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1987	$ 8,646	5.0%	443,593	2.5%	2.6%	$ 19,492	2.4%	3.5%
1988	9,166	6.0%	455,460	2.7%	2.6%	20,124	3.2%	3.5%
1989	9,764	6.5%	470,042	3.2%	2.6%	20,772	3.2%	3.5%
1990	10,446	7.0%	483,262	2.8%	2.6%	21,616	4.1%	3.5%
1991	11,181	7.0%	502,625	4.0%	2.5%	22,245	2.9%	3.5%
1992	11,961	7.0%	521,661	3.8%	2.5%	22,928	3.1%	3.5%
1993	13,391	12.0%	575,088	10.2%	2.1%	23,285	1.6%	3.6%
1994	14,167	5.8%	600,484	4.4%	1.9%	23,593	1.3%	3.8%
1995	14,888	5.1%	625,878	4.2%	1.8%	23,788	0.8%	4.0%
1996	15,983	7.4%	652,197	4.2%	1.6%	24,506	3.0%	4.0%
1997	17,044	6.6%	678,749	4.1%	1.4%	25,112	2.5%	4.2%
1998	18,325	7.5%	705,447	3.9%	1.2%	25,977	3.4%	4.2%
1999	19,529	6.6%	736,058	4.3%	1.0%	26,533	2.1%	4.4%
2000	21,920	12.2%	766,906	4.2%	0.7%	28,583	7.7%	4.1%
2001	23,365	6.6%	797,339	4.0%	0.4%	29,303	2.5%	4.2%
2002	24,818	6.2%	745,923	(6.4%)	1.2%	33,272	13.5%	3.3%
2003	25,756	3.8%	754,715	1.2%	1.2%	34,127	2.6%	3.3%
2004	25,485	(1.1%)	729,411	(3.4%)	1.8%	34,939	2.4%	3.5%
2005	25,957	1.9%	715,495	(1.9%)	2.5%	36,278	3.8%	3.4%
2006	28,397	9.4%	761,658	6.5%	1.7%	37,284	2.8%	3.6%
2007	31,114	9.6%	777,789	2.1%	1.6%	40,003	7.3%	2.6%
2008	33,238	6.8%	801,455	3.0%	1.1%	41,472	3.7%	2.3%
2009	35,097	5.6%	817,537	2.0%	0.7%	42,930	3.5%	1.7%
2010	36,629	4.4%	834,060	2.0%	(0.6%)	43,916	2.3%	1.1%
2011	36,797	0.5%	828,919	(0.6%)	--	44,392	1.1%	--

Note: Beginning August 31, 1993, the above amounts include counts and estimated pay for new entrants with incomplete data.
Beginning August 31, 2002, the definition of active member was changed.
Beginning August 31, 2005, the method of determining new entrant errors was changed.

RELATIVE SIZE OF UNFUNDED ACTUARIAL ACCRUED LIABILITY

Year Ending August 31,	Unfunded Actuarial Accrued Liability in $ Millions	Relative to Covered Payroll: Covered Payroll In $ Millions	Relative to Covered Payroll: Percent of Covered Payroll	Relative to Actuarial Value of Assets: Assets in $ Millions	Relative to Actuarial Value of Assets: Percent of Assets	Relative to Total Actuarial Liabilities (Present Value of Future Benefits): Actuarial Liabilities in $ Millions	Relative to Total Actuarial Liabilities (Present Value of Future Benefits): Percent of Actuarial Liabilities
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1969	$ 1,312	$ 1,299	101.0%	$ 1,364	96.2%	$ 3,960	33.1%
1970	1,444	1,528	94.5%	1,534	94.1%	4,384	32.9%
1971	1,632	1,758	92.8%	1,726	94.6%	5,100	32.0%
1972	1,720	1,904	90.5%	1,937	88.8%	5,551	31.0%
1973	1,633	2,079	78.5%	2,171	75.2%	5,733	28.5%
1974	1,739	2,246	77.4%	2,394	72.6%	6,207	28.0%
1975	1,998	2,583	77.4%	2,764	72.3%	7,143	28.0%
1976	2,445	2,875	85.0%	3,103	78.8%	8,067	30.3%
1977	2,879	3,246	88.7%	3,531	81.5%	9,626	29.9%
1978	2,422	3,636	66.6%	4,016	60.3%	9,858	24.6%
1979	3,322	3,928	84.6%	4,529	73.3%	12,336	26.9%
1980	2,785	4,378	63.6%	5,342	52.1%	12,181	22.9%
1981	3,300	4,970	66.4%	6,386	51.7%	13,890	23.8%
1982	3,864	5,616	68.8%	7,373	52.4%	16,135	23.9%
1983	4,549	6,378	71.3%	8,586	53.0%	20,277	22.4%
1984	4,849	6,652	72.9%	9,851	49.2%	22,456	21.6%
1985	6,474	7,547	85.8%	12,096	53.5%	29,618	21.9%
1986	5,365	8,237	65.1%	14,939	35.9%	32,273	16.6%
1987	4,096	8,646	47.4%	18,055	22.7%	34,801	11.8%
1988	3,890	9,166	42.4%	20,096	19.4%	37,332	10.4%
1989	3,489	9,764	35.7%	23,302	15.0%	41,084	8.5%
1990	3,343	10,446	32.0%	26,111	12.8%	45,685	7.3%
1991	3,429	11,181	30.7%	28,860	11.9%	49,515	6.9%
1992	3,441	11,959	28.8%	31,201	11.0%	53,123	6.5%

RELATIVE SIZE OF UNFUNDED ACTUARIAL ACCRUED LIABILITY

		Relative to Covered Payroll		Relative to Actuarial Value of Assets		Relative to Total Actuarial Liabilities (Present Value of Future Benefits)	
Year Ending August 31,	Unfunded Actuarial Accrued Liability in $ Millions	Covered Payroll In $ Millions	Percent of Covered Payroll	Assets in $ Millions	Percent of Assets	Actuarial Liabilities in $ Millions	Percent of Actuarial Liabilities
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1993	$ 3,440	$ 13,391	25.7%	$ 35,179	9.8%	$ 59,210	5.8%
1994	825	14,167	5.8%	38,843	2.1%	58,351	1.4%
1995	1,956	14,888	13.1%	43,442	4.5%	65,259	3.0%
1996	1,813	15,983	11.3%	47,487	3.8%	68,948	2.6%
1997	146	17,044	0.9%	53,760	0.3%	74,677	0.2%
1998	(2,463)	18,325	(13.4%)	60,357	(4.1%)	79,603	(3.1%)
1999	(2,190)	19,529	(11.2%)	69,435	(3.2%)	91,563	(2.4%)
2000	(5,446)	21,920	(24.8%)	79,328	(6.9%)	100,414	(5.4%)
2001	(2,135)	23,365	(9.1%)	86,352	(2.5%)	113,663	(1.9%)
2002	3,287	24,818	13.2%	86,035	3.8%	118,100	2.8%
2003	5,230	25,756	20.3%	89,033	5.9%	123,677	4.2%
2004	7,953	25,485	31.2%	88,784	9.0%	121,267	6.6%
2005	13,196	25,957	50.8%	89,299	14.8%	124,556	10.6%
2006	13,694	28,397	48.2%	94,218	14.5%	131,906	10.4%
2007	12,545	31,114	40.3%	103,419	12.1%	142,190	8.8%
2008	11,523	33,238	34.7%	110,233	10.5%	150,999	7.6%
2009	21,646	35,097	61.7%	106,384	20.3%	158,899	13.6%
2010	22,899	36,629	62.5%	111,293	20.6%	166,445	13.8%
2011	24,062	36,797	65.4%	115,253	20.9%	173,204	13.9%

CHANGE IN PLAN NET ASSETS

	Year Ending August 31, 2011	Year Ending August 31, 2010
	(1)	(2)
I. Revenue for the Year		
A. Contribution and fees		
1. Member contributions	$ 2,247,938,330	$ 2,205,017,425
2. State contributions - State of Texas	1,933,165,206	1,881,404,596
3. State contributions - 415 Excess Plan	1,750,588	1,504,510
4. State contributions - Employers	415,984,911	412,268,503
5. State contributions - Legislative Appropriations	-	2,805,955
6. Reinstatement of withdrawals	45,158,612	37,442,030
7. Reinstatement fees	60,018,492	47,077,732
8. Total	$ 4,704,016,139	$ 4,587,520,751
B. Income		
1. Interest	$ 1,003,311,852	$ 914,151,731
2. Dividends	1,120,858,771	958,159,969
3. Net appreciation in fair value of investments	12,616,681,465	7,542,738,000
4. Income from Securities Lending	135,755,199	108,315,827
5. Investment expenses	(239,672,059)	(111,918,654)
6. Total	14,636,935,228	9,411,446,873
C. Other Adjustments	$ 1,576,613	$ 949,762
D. Total Revenue	$ 19,342,527,980	$ 13,999,917,386
II. Expenditures for the Year		
A. Refund of Contributions	$ 399,040,901	$ 265,186,589
B. Benefit Payments		
1. Service retirements	$ 6,241,946,655	$ 5,892,366,905
2. DROP payments	27,822,115	22,607,290
3. Partial Lump Sum Option payments	524,925,790	385,555,126
4. 415 Excess Plan payments	1,750,588	1,504,510
5. Disability retirements	144,865,109	141,396,837
6. Death and survivor benefits	233,945,119	225,874,194
7. Total benefits	$ 7,175,255,376	$ 6,669,304,862
C. Expenses		
1. Gross expenses		
a. Administrative expenses	$ 35,849,819	$ 29,992,608
2. Miscellaneous reimbursements	-	-
3. Total expenses	35,849,819	29,992,608
D. Total Expenditures	$ 7,610,146,096	$ 6,964,484,059
III. Net Increase in Plan Net Assets (Item I.D. - Item II.D.)	$ 11,732,381,884	$ 7,035,433,327

ESTIMATION OF YIELDS

Item	Year Ending August 31, 2011	Year Ending August 31, 2010
(1)	(2)	(3)
A. Market value yield		
1. Beginning of year net market assets	$ 95,688,405,009	$ 88,652,971,682
2. Investment income (net of all expenses)	14,602,662,022	9,382,404,027
3. End of year market assets	107,420,786,893	95,688,405,009
4. Estimated market value yield	15.5%	10.7%
B. Actuarial value yield		
1. Beginning of year actuarial assets	$ 111,292,527,887	$ 106,383,566,018
2. Investment income	6,830,580,650	7,255,932,569
3. End of year actuarial assets	115,252,828,399	111,292,527,887
4. Estimated actuarial value yield	6.2%	6.9%

GAIN OR LOSS FOR THE YEAR

Item	Year Ending August 31, 2011	Year Ending August 31, 2010
(1)	(2)	(3)
A. CALCULATION OF TOTAL GAIN OR LOSS		
1. Unfunded actuarial accrued liability (UAAL),		
a. Previous year, before Assumption changes	$ 22,898,582,348	$ 21,645,737,793
b. Previous year, after Assumption changes	22,627,619,496	21,645,737,793
2. Normal cost for the year	3,758,615,891	3,688,521,679
3. Contributions for the year	(4,704,016,139)	(4,587,520,751)
4. Interest at 8%		
a. On UAAL	$ 1,810,209,560	$ 1,731,659,023
b. On normal cost	150,344,636	147,540,867
c. On contributions	(188,160,646)	(183,500,830)
d. Total	$ 1,772,393,550	$ 1,695,699,060
5. Expected UAAL (Sum of Items A1 through A4)	23,725,575,650	22,442,437,781
6. Actual UAAL	24,062,262,158	22,898,582,348
7. Gain (loss) for the year (Item A5 - Item A6)	$ (336,686,508)	$ (456,144,567)
B. SOURCE OF GAINS AND LOSSES		
1. Asset gain (loss) for the year (Table 4)	$ (1,958,010,376)	$ (1,160,873,884)
2. Asset gain (loss) as a % of actuarial assets	(1.70%)	(1.04%)
3. Total actuarial accrued liability gain (loss) for year (Item A7 - Item B1)	1,621,323,868	704,729,317
4. Analysis of actuarial accrued liability loss		
a. Assumption changes	270,962,852	-
b. Liability experience	1,350,361,016	704,729,317
c. Total	$ 1,621,323,868	$ 704,729,317
5. Experience liability gain (loss) as % of total actuarial accrued liability (Item B4b as % of total actuarial accrued liability)	0.97%	0.53%

ANALYSIS OF CHANGE IN FUNDING PERIOD

Basis	UAAL ($ Millions)	Normal Cost Rate	Total Contribution Rate	Funding Period	Change in Funding Period	GASB ARC
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1. 2010 Valuation	22,899	10.42%	13.04%	Never	N/A	7.77%
2. Restated 2010 Valuation with assumption changes	22,628	10.60%	13.04%	Never	N/A	7.92%
3. Expected 2011 UAAL using expected contributions	23,439	10.60%	13.04%	Never	N/A	7.98%
4. Expected 2011 UAAL using actual contributions	23,726	10.60%	13.04%	Never	N/A	8.02%
5. 2011 UAAL using expected assets and actual liabilities	22,104	10.60%	13.04%	Never	N/A	7.76%
6. 2011 UAAL recognizing past deferred asset gains/(losses)	25,475	10.60%	13.04%	Never	N/A	8.30%
7. 2011 UAAL using actual assets and liabilities, expected payroll	24,062	10.60%	13.04%	Never	N/A	8.08%
8. 2011 UAAL using actual payroll	24,062	10.60%	13.04%	Never	N/A	8.19%
9. 2011 UAAL reamortizing to 30 years	24,062	10.60%	13.04%	Never	N/A	8.13%
10. 2011 UAAL change to contribution rate	24,062	10.60%	12.40%	Never	N/A	8.13%

3. The funding period for this entry uses the expected UAAL based on expected contribution and expected payroll. The expected payroll is the prior year's valuation payroll, rolled forward at the 3.5% payroll growth rate.
4. This entry uses actual contributions based on actual payroll during FY2011
5. This entry uses expected assets and payroll growth, while incorporating the actual liabilities as of August 31, 2011.
6. This entry recognizes defered investment gains/(losses) as of August 31, 2010 from prior valuations.
7. This entry includes the current year investment results.
8. This entry incorporates known assets, liabilities, and payroll growth. The overall payroll growth does not affect the liabilities of the plan, but instead affects the calculation of the ARC because the payroll is the denominator in the calculation of the amortization payment. Higher than expected payroll growth leads to a decrease in the required amortization payment as a percentage of payroll
9. This entry shows the impact of the open 30 year amortization policy for determing the ARC
10. This entry shows the impact of decreasing the employer contribution rate from 6.40% of payroll to 6.00%

Near Term Outlook

Valuation as of August 31,	Unfunded Actuarial Accrued Liability (UAAL, in Millions)	Funded Ratio	Funding Period	Actuarial Value of Assets (AVA, in Millions)	For Fiscal year Ending August 31,	Compensation (in Millions)	Employer Contributions (in Millions)	Employee Contributions (in Millions)	Benefit Payments and Refunds for Following FY	External Cash Flow	30 Year GASB ARC
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2010	$ 24,063	82.7%	Never	$ 115,253	2011	$ 36,797	$ 2,456	$ 2,248	$ 7,574	$ (2,870)	8.13%
2011	26,216	76.9%	Never	120,147	2012	37,612	2,162	2,285	7,700	(3,253)	8.38%
2012	28,351	76.8%	Never	125,172	2013	38,705	2,361	2,336	8,212	(3,515)	8.60%
2013	30,559	76.7%	Never	130,246	2014	39,867	2,429	2,404	8,752	(3,919)	8.80%
2014	32,850	76.5%	Never	135,354	2015	41,111	2,502	2,476	9,311	(4,333)	9.00%
2015	35,234	76.2%	Never	140,492	2016	42,427	2,580	2,553	9,883	(4,750)	9.19%
2016	37,815	75.9%	Never	145,677	2017	43,815	2,662	2,634	10,355	(5,058)	9.38%
2017	40,527	75.6%	Never	150,909	2018	45,268	2,749	2,720	10,916	(5,447)	9.57%
2018	43,381	75.3%	Never	156,180	2019	46,785	2,840	2,810	11,495	(5,846)	9.77%
2019	46,389	74.9%	Never	161,482	2020	48,361	2,934	2,903	12,088	(6,251)	9.96%
2020	49,564	74.5%	Never	166,794	2021	49,996	3,033	3,000	12,710	(6,677)	10.15%

Assumes 6.00% State contribution for FY2012 and 6.40% thereafter
Assumes 8.00% investment return on market each year
Assumes all other assumptions exactly met

HISTORY OF CASH FLOW

Year Ending August 31, (1)	Contributions for the Year[1] (2)	Expenditures During the Year: Benefit Payments (3)	Refund of Contributions (4)	Transfer to Employees Retirement System (5)	Expenses[3] (6)	Total (7)	External Cash Flow for the Year[2] (8)	Market Value of Assets (9)	External Cash Flow as Percent of Market Value (10)
1988	$ 1,271,996,942	$ (874,560,122)	$ (113,178,276)	$ -	$ (15,155,899)	$ (1,002,894,297)	$ 269,102,645	$ 19,188,847,074	1.4%
1989	1,356,713,827	(935,943,118)	(118,507,638)	(899,352)	(14,314,799)	(1,069,664,907)	287,048,920	23,941,442,793	1.2%
1990	1,502,302,663	(1,084,811,284)	(127,848,570)	-	(17,093,847)	(1,229,753,701)	272,548,962	24,555,334,041	1.1%
1991	1,600,092,649	(1,185,833,198)	(133,870,775)	-	(21,115,074)	(1,340,819,047)	259,273,602	29,695,711,781	0.9%
1992	1,663,664,046	(1,361,265,788)	(130,032,827)	-	(22,150,155)	(1,513,448,770)	150,215,276	32,766,914,759	0.5%
1993	1,792,999,133	(1,446,714,384)	(122,114,590)	-	(25,779,705)	(1,594,608,679)	198,390,454	37,981,853,461	0.5%
1994	1,887,530,125	(1,604,046,513)	(133,227,183)	-	(25,975,865)	(1,763,249,561)	124,280,564	39,277,226,893	0.3%
1995	1,980,678,842	(1,731,747,042)	(146,099,978)	-	(25,896,749)	(1,903,743,769)	76,935,073	45,965,182,547	0.2%
1996	1,927,100,219	(2,105,423,164)	(162,257,383)	-	(25,457,726)	(2,293,138,273)	(366,038,054)	50,101,367,986	(0.7%)
1997	2,052,261,338	(2,217,173,754)	(166,125,695)	-	(24,468,347)	(2,407,767,796)	(355,506,458)	62,160,927,516	(0.6%)
1998	2,197,477,431	(2,503,386,682)	(183,430,398)	-	(26,803,767)	(2,713,620,847)	(516,143,416)	66,456,822,943	(0.8%)
1999	2,334,197,510	(2,639,947,187)	(206,354,473)	-	(29,146,859)	(2,875,448,519)	(541,251,009)	79,910,553,792	(0.7%)
2000	2,569,218,427	(3,360,116,181)	(214,999,991)	-	(31,133,307)	(3,606,249,479)	(1,037,031,052)	89,987,158,209	(1.2%)
2001	2,712,395,592	(3,667,711,511)	(214,434,792)	-	(32,641,273)	(3,914,787,576)	(1,202,391,984)	79,428,239,521	(1.5%)
2002	2,920,429,953	(4,366,038,505)	(186,421,065)	-	(37,518,541)	(4,589,978,111)	(1,669,548,158)	71,695,802,361	(2.3%)
2003	3,094,280,741	(4,753,849,401)	(186,082,670)	-	(38,030,992)	(4,977,963,063)	(1,883,682,322)	77,633,002,461	(2.4%)
2004	3,156,205,813	(5,486,849,698)	(220,396,709)	-	(41,092,036)	(5,748,338,443)	(2,592,132,630)	84,202,981,707	(3.1%)
2005	3,208,090,642	(5,387,605,428)	(243,382,014)	-	(42,488,318)	(5,673,475,760)	(2,465,385,118)	93,707,816,093	(2.6%)
2006	3,454,514,897	(5,582,306,639)	(265,487,479)	-	(45,543,800)	(5,893,337,918)	(2,438,823,021)	100,238,963,187	(2.4%)
2007	3,703,755,952	(5,807,036,778)	(277,932,219)	-	(48,444,678)	(6,133,413,675)	(2,429,657,723)	112,128,799,849	(2.2%)
2008	4,142,958,389	(6,454,687,449)	(275,482,331)	-	(55,452,812)	(6,785,622,592)	(2,642,664,203)	104,910,497,545	(2.5%)
2009	4,352,908,188	(6,343,563,704)	(266,695,076)	-	(97,300,965)	(6,707,559,745)	(2,354,651,557)	88,652,971,682	(2.7%)
2010	4,587,520,751	(6,669,304,862)	(265,186,589)	-	(141,911,262)	(7,076,402,713)	(2,488,881,962)	95,688,405,009	(2.6%)
2011	4,704,016,139	(7,175,255,376)	(399,040,901)	-	(275,521,878)	(7,849,818,155)	(3,145,802,016)	107,420,786,893	(2.9%)

[1] Column (2) includes employee and employer contributions, as well as any service purchase or account reinstatement receipts during the year
[2] Column (8) = Column (2) - Column (7)
[3] Column (6) includes both adminstrative and investment expenses

HISTORY OF CONTRIBUTION RATES

Fiscal Year	GASB 25 Annual Required Contribution Rate	State Contribution Rate	Member Contribution Rate	Total Contribution Rate
(1)	(2)	(3)	(4)	(5)
1976/77		6.000%	6.000%	12.000%
1977/78		7.500%	6.650%	14.150%
1978/79		7.500%	6.650%	14.150%
1979/80		8.500%	6.650%	15.150%
1980/81		8.500%	6.650%	15.150%
1981/82		8.500%	6.650%	15.150%
1982/83		8.500%	6.650%	15.150%
1983/84		7.100%	6.000%	13.100%
1984/85		7.100%	6.000%	13.100%
1985/86		8.000%	6.400%	14.400%
1986/87		8.000%	6.400%	14.400%
1987/88		7.200%	6.400%	13.600%
1988/89		7.200%	6.400%	13.600%
1989/90		7.650%	6.400%	14.050%
1990/91		7.650%	6.400%	14.050%
1991/92		7.310%	6.400%	13.710%
1992/93		7.310%	6.400%	13.710%
1993/94		7.310%	6.400%	13.710%
1994/95		7.310%	6.400%	13.710%
1995/96		6.000%	6.400%	12.400%
1996/97	6.00%	6.000%	6.400%	12.400%
1997/98	6.00%	6.000%	6.400%	12.400%
1998/99	4.12%	6.000%	6.400%	12.400%
1999/00	4.92%	6.000%	6.400%	12.400%
2000/01	4.12%	6.000%	6.400%	12.400%
2001/02	5.70%	6.000%	6.400%	12.400%
2002/03	7.15%	6.000%	6.400%	12.400%
2003/04	7.39%	6.000%	6.400%	12.400%
2004/05	7.31%	6.000%	6.400%	12.400%
2005/06	7.19%	6.000%	6.400%	12.400%
2006/07	7.02%	6.000%	6.400%	12.400%
2007/08	6.47%	6.580%	6.400%	12.980%
2008/09	6.10%	6.580%	6.400%	12.980%
2009/10	7.72%	6.644%	6.400%	13.044%
2010/11	7.77%	6.644%	6.400%	13.044%
2011/12	8.13%	6.000%	6.400%	12.400%

SCHEDULE OF FUNDING PROGRESS
(as required by GASB No. 25)

Valuation As of August 31, (1)	Actuarial Value of Assets (2)	Actuarial Accrued Liability (AAL) (3)	Unfunded AAL (UAAL) (3) - (2) (4)	Funding Ratio Assets as % of AAL (2) / (3) (5)	Annual Covered Payroll (6)	UAAL As a % of Covered Payroll (4) / (6) (7)
2011	$ 115,253	$ 139,315	$ 24,062	82.7%	$ 36,797	65.4%
2010	111,293	134,191	22,899	82.9%	36,629	62.5%
2009	106,384	128,029	21,646	83.1%	35,097	61.7%
2008	110,233	121,757	11,523	90.5%	33,238	34.7%
2007	103,419	115,964	12,545	89.2%	31,114	40.3%
2006	94,218	107,911	13,694	87.3%	28,397	48.2%
2005	89,299	102,495	13,196	87.1%	25,957	50.8%
2004	88,784	96,737	7,953	91.8%	25,485	31.2%
2003	89,033	94,263	5,230	94.5%	25,756	20.3%
2002	86,035	89,322	3,287	96.3%	24,818	13.2%
2001	86,352	84,217	(2,135)	102.5%	23,365	(9.1%)
2000	79,328	73,882	(5,446)	107.4%	21,920	(24.8%)
1999	69,435	67,245	(2,190)	103.3%	19,529	(11.2%)
1998	60,357	57,893	(2,463)	104.3%	18,325	(13.4%)
1997	53,760	53,906	146	99.7%	17,044	0.9%
1996	47,487	49,300	1,813	96.3%	15,983	11.3%
1995	43,442	45,398	1,956	95.7%	14,888	13.1%
1994	38,843	39,668	825	97.9%	14,167	5.8%
1993	35,179	38,619	3,440	91.1%	13,391	25.7%
1992	31,201	34,643	3,441	90.1%	11,959	28.8%
1991	28,860	32,289	3,429	89.4%	11,181	30.7%
1990	26,111	29,455	3,343	88.6%	10,446	32.0%
1989	23,301	26,790	3,488	87.0%	9,764	35.7%
1988	20,095	23,985	3,890	83.8%	9,166	42.4%
1987	18,055	22,151	4,096	81.5%	8,646	47.4%

SCHEDULE OF EMPLOYER CONTRIBUTIONS
(As required by GASB No. 25)

Fiscal Year Ended	Annual Required Contribution	Percentage Contributed
(1)	(2)	(3)
2011	7.77%	85%
2010	7.72%	86%
2009	6.10%	108%
2008	6.47%	102%
2007	7.02%	85%
2006	7.19%	83%
2005	7.31%	82%
2004	7.39%	81%
2003	7.15%	84%
2002	5.70%	105%
2001	4.12%	146%
2000	4.92%	122%
1999	4.12%	146%
1998	6.00%	100%
1997	6.00%	100%
1996	6.00%	100%
1995	7.31%	100%
1994	7.31%	100%
1993	7.31%	100%
1992	7.31%	100%

NOTES TO REQUIRED SUPPLEMENTARY INFORMATION
(as required by GASB No. 25)

The information presented in the required supplementary schedules was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation follows:

Valuation date	August 31, 2011
Actuarial cost method	Entry Age Normal
Amortization method	Level percent, open
Remaining amortization period*	Never
Asset valuation method	5-year smoothed market
Actuarial assumptions:	
Investment rate of return **	8.00%
Projected salary increases **	4.25% to 7.25%
Weighted-average at valuation date	5.62%
**Includes inflation at	3.0%
Cost-of-living adjustments	None

* Based on the employer contribution rate of 6.00% which became effective 9/1/2011.
The ARC for Fiscal Year 2011 (8.13%) was determined using a 30-year amortization period.

STATISTICAL INFORMATION

	August 31, 2011	August 31, 2010	August 31, 2009
	(1)	(2)	(3)
A. Number			
1. Active Members			
a. Total active members	828,919	834,060	817,537
b. Average age	44.3	44.2	44.1
c. Average service	9.9	9.7	9.6
2. Inactive Vested Members			
a. Male members	13,750	13,069	12,781
b. Female members	50,953	48,433	47,103
c. Total inactive vested members	64,703	61,502	59,884
3. Inactive Nonvested Members	110,264	108,627	111,547
B. Annualized Salaries			
1. Active members			
a. Total active members	$ 36,797,010,751	$ 36,628,844,127	$ 35,096,889,837
b. Average annual salary	44,392	43,916	42,930
C. Accumulated Members Contributions			
1. Total Active Members	26,564,338,742	25,432,061,192	23,803,015,694
2. Inactive Vested Members			
a. Male members	$ 474,526,250	$ 436,661,428	$ 417,427,460
b. Female members	1,482,987,065	1,373,511,447	1,293,730,998
c. Total inactive vested members	$ 1,957,513,315	$ 1,810,172,875	$ 1,711,158,458
3. Inactive Nonvested Members	$ 311,886,726	$ 294,211,296	$ 279,784,905
D. Active Members in DROP (included in above totals)			
1. Number	324	466	586
2. DROP Balance	$ 31,974,133	$ 45,443,217	$ 57,637,467
E. Members With No Contributions in Most Recent Plan Year, but With Contributions During Last Five Plan Years *			
1. Treated as active members			
a. Number	10,955	10,720	10,628
b. Annualized salaries	$ 328,610,878	$ 313,481,408	$ 302,151,398
2. Treated as inactive vested members			
a. Number	33,090	32,463	32,962
b. Accumulated contributions	$ 995,685,277	$ 950,420,530	$ 936,457,137
3. Treated as inactive nonvested members			
a. Number	65,500	64,020	62,686
b. Accumulated contributions	$ 253,546,736	$ 235,741,179	$ 224,142,859

* The counts and amounts in item E are included in items A, B and C above.

STATISTICAL INFORMATION

	August 31, 2011	August 31, 2010	August 31, 2009
	(1)	(2)	(3)
F. Persons Receiving Benefits			
1. Number			
a. Life annuities*	291,353	275,649	264,226
b. Annuities certain	1,485	1,439	1,408
c. Disability annuities - less than 10 years of service	228	235	263
d. Disability annuities - 10 or more years of service	8,557	8,442	8,348
e. Incomplete Data Records	0	0	0
f. Survivor annuities			
1) Currently in pay	10,148	9,833	9,529
2) Deferred	909	893	840
3) Total	11,057	10,726	10,369
g. Total persons receiving benefits	312,680	296,491	284,614
2. Annual Annuities			
a. Life annuities **	$ 6,631,567,113	$ 6,163,099,261	$ 5,834,880,383
b. Annuities certain **	17,532,631	17,276,520	16,792,107
c. Disability annuities - less than 10 years of service	410,400	423,000	474,094
d. Disability annuities - 10 or more years of service	120,558,037	118,210,228	116,614,347
e. Survivor annuities			
1) Currently in pay	30,501,760	29,559,460	28,640,860
2) Deferred	2,645,200	2,593,000	2,434,900
3) Total	33,146,960	32,152,460	31,075,760
f. Total persons receiving benefits	$ 6,803,215,141	$ 6,331,161,469	$ 5,999,836,691
g. Average monthly annuities			
1) Life annuities **	$ 1,897	$ 1,863	$ 1,840
2) Annuities certain **	984	1,000	994
3) Disability annuities - 10 or more years of service	1,174	1,167	1,164
h. DROP Lump Sum payments during year	$ 27,822,115	$ 22,607,290	$ 23,272,668
i. Partial Lump Sum Option payments during year	$ 524,925,790	$ 385,555,126	$ 348,261,100

* Includes 1,276 disabled annuitants who are receiving a retirement benefit as of August 31, 2011

** Annual and average life annuity amounts represent values after Partial Lump Sum Option Elections.

STATEMENT OF PLAN NET ASSETS

	August 31, 2011 (1)	August 31, 2010 (2)
A. ASSETS		
1. Current Assets		
a. Cash and short term investments		
1) Cash on hand and State Treasury	$ 1,079,187,851	$ 949,978,660
2) Short term investments	12,213,737,500	8,175,362,025
b. Accounts Receivable		
1) Member contributions	80,060,214	84,071,923
2) School districts	44,574,753	48,983,324
3) Employees Retirement System	1,219,459	971,294
4) State	0	27,970,203
5) Sale of investments	931,132,294	147,800,560
6) Interest and dividends	244,762,871	223,483,544
7) Other	234,809	423,453
c. Prepaid assets	0	0
d. Total current assets	14,594,909,751	9,659,044,986
2. Long Term Investments		
a. Fixed income	$ 20,442,247,585	$ 19,502,462,264
b. Alternative assets	26,812,226,782	20,947,239,811
c. Equities	41,913,520,425	42,805,497,400
d. Pooled investments	4,666,369,268	3,494,599,035
e. Invested Securities Lending Collateral	22,760,168,002	23,601,464,926
f. Total long term investments	$ 116,594,532,062	$ 110,351,263,436
3. Other Assets		
a Non-Depreciable Assets	$ 3,260,582	$ 1,658,310
b. Building and equipment after depreciation	25,784,600	29,339,363
c. Deferred assets	0	0
d. Total other assets	$ 29,045,182	$ 30,997,673
4. Total Assets	$ 131,218,486,995	$ 120,041,306,095
B. LIABILITIES		
1. Current Liabilities		
a. Accounts payable	$ 55,726,551	$ 22,294,102
b. Benefits payable	649,896,558	578,168,075
c. Due to Employees Retirement System	5,656,783	5,126,112
d. Due to State's General Revenue Fund	45,577,164	17,394,384
e. Investments purchased payable	235,903,809	119,435,388
f. Securities Lending Collateral	22,779,223,912	23,581,689,266
g. Total current liabilities	$ 23,771,984,777	$ 24,324,107,327
2. Deferred Credits	25,715,325	28,793,759
3. Total Liabilities and Deferred credits	23,797,700,102	24,352,901,086
C. NET ASSETS HELD IN TRUST	$ 107,420,786,893	$ 95,688,405,009
D. ASSET ALLOCATION FOR CASH & LONG TERM INVESTMENTS		
1. Cash	10.2%	7.6%
2. Fixed Income	15.7%	16.3%
3. Alternative Assets	20.6%	17.5%
4. Equities	32.3%	35.8%
5. Total	78.8%	77.2%

Distribution of Active Members by Age and by Years of Service
As of 08/31/2011

	Years of Credited Service												
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	Total
Attained Age	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.
Under 25		9,764	4,259	1,449	675	362							16,509
		$32,519	$32,318	$23,899	$23,209	$24,358							$31,151
25-29	4	16,318	16,255	14,881	12,502	16,273	247						76,480
	$13,860	$36,220	$40,196	$42,465	$43,881	$44,100	$33,767						$41,200
30-34		10,447	9,609	9,853	10,414	44,013	9,340	84					93,760
		$34,413	$37,944	$40,327	$42,734	$48,315	$49,260	$44,070					$44,334
35-39	1	8,742	8,315	8,553	8,465	32,903	30,445	5,802	81				103,307
	$3,719	$33,379	$36,921	$38,487	$40,428	$45,794	$53,151	$54,793	$40,964				$45,654
40-44	1	7,861	7,575	7,761	7,907	29,860	24,341	21,842	5,256	95			112,499
	$2,806	$31,504	$34,692	$36,213	$37,718	$42,853	$49,094	$58,021	$57,982	$45,433			$45,695
45-49	2	6,296	6,107	6,481	6,518	26,658	22,134	15,942	15,864	5,481	176		111,659
	$4,465	$29,403	$33,366	$34,276	$35,440	$39,695	$43,761	$51,856	$60,179	$60,279	$51,093		$44,686
50-54		5,028	4,703	5,036	5,241	22,655	21,914	17,194	13,559	14,017	4,739	48	114,134
		$28,962	$33,687	$33,883	$35,917	$39,261	$42,649	$48,002	$55,251	$64,127	$65,302	$53,243	$46,195
55-59	1	3,393	3,310	3,621	3,759	16,584	17,274	16,136	13,819	8,043	8,015	2,128	96,083
	$37,920	$28,399	$34,342	$34,497	$36,027	$39,373	$42,986	$47,217	$52,437	$59,908	$69,298	$71,750	$47,276
60-64	1	1,988	1,996	2,260	2,372	10,693	10,544	10,211	8,310	5,575	3,066	2,942	59,958
	$18,936	$26,993	$32,076	$33,659	$33,700	$38,902	$42,249	$46,511	$51,470	$56,563	$63,656	$75,658	$46,214
65 +		952	981	1,156	1,170	5,370	4,859	3,558	2,863	1,902	1,181	1,206	25,198
		$19,337	$25,024	$25,955	$25,748	$32,457	$37,246	$41,941	$46,365	$51,176	$56,153	$71,820	$39,312
Total	10	70,789	63,110	61,051	59,023	205,371	141,098	90,769	59,752	35,113	17,177	6,324	809,587
	$12,775	$28,100	$34,103	$37,071	$38,948	$42,953	$46,449	$50,975	$55,178	$60,607	$66,098	$73,441	$44,770

Note: Table includes contributing members (except for the new entrant data errors) and those noncontributing members assumed to be active.

DISTRIBUTION OF LIFE ANNUITIES BY AGE

Age	Number	Annual Annuities	Monthly Average Annuity
(1)	(2)	(3)	(4)
Up to 35	425	$ 5,668,748	$ 1,112
35-40	270	4,365,523	1,347
40-44	419	5,661,062	1,126
45-49	610	9,372,605	1,280
50-54	5,680	180,043,699	2,641
55-59	27,652	827,088,791	2,493
60-64	60,436	1,575,113,076	2,172
65-69	62,413	1,374,498,448	1,835
70-74	49,068	975,357,716	1,656
75-79	37,248	742,110,391	1,660
80-84	26,049	522,548,633	1,672
85-89	13,752	271,127,550	1,643
90-94	5,645	106,643,924	1,574
95-99	1,461	27,666,923	1,578
100 & up	225	4,300,024	1,593
TOTAL	291,353	$ 6,631,567,113	$ 1,897

DISTRIBUTION OF DISABLED ANNUITIES BY AGE

Age (1)	Number (2)	Annual Annuities (3)	Monthly Average Annuity (4)
Up to 35	1	$ 7,417	$ 618
35-40	24	246,984	858
40-44	122	1,373,073	938
45-49	359	4,959,989	1,151
50-54	896	13,592,036	1,264
55-59	1,446	20,869,931	1,203
60-64	1,718	22,724,001	1,102
65-69	1,242	14,994,642	1,006
70-74	903	12,628,070	1,165
75-79	841	13,269,047	1,315
80-84	630	10,819,517	1,431
85-89	268	3,775,478	1,174
90-94	87	1,097,958	1,052
95 -99	20	199,894	833
100 & up	0	0	0
TOTAL	8,557	$ 120,558,037	$ 1,174

Retirees, Beneficiaries, and Disabled Participants Added to and Removed from Rolls

	Added to Rolls		Removed from Rolls		Rolls-End of Year			
Valuation August 31,	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances	% Increase in Annual Allowances	Average Annual Allowances
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
2001					188,882	$ 3,703,642,072		$ 19,608
2002	19,678	$ 426,133,328	7,119	$ 100,259,400	201,441	4,029,516,000	8.8%	20,003
2003	23,061	477,035,602	7,025	125,196,802	217,477	4,381,354,800	8.7%	20,146
2004	30,288	640,407,566	7,138	108,483,938	240,627	4,913,278,428	12.1%	20,419
2005	15,153	292,452,315	7,271	127,291,874	248,509	5,078,438,869	3.4%	20,436
2006	15,810	324,292,542	7,175	120,623,840	257,144	5,282,107,571	4.0%	20,541
2007	15,861	336,348,640	7,698	131,295,705	265,307	5,487,160,506	3.9%	20,682
2008	17,727	391,920,863	7,806	135,160,090	275,228	5,743,921,279	4.7%	20,870
2009	17,326	392,452,923	7,940	136,537,511	284,614	5,999,836,691	4.5%	21,081
2010	20,076	473,512,423	8,199	142,187,645	296,491	6,331,161,469	5.5%	21,354
2011	24,688	620,038,676	8,499	147,985,004	312,680	6,803,215,141	7.5%	21,758

SUMMARY OF THE BENEFIT PROVISIONS OF THE RETIREMENT SYSTEM AS OF AUGUST 31, 2011

The Teacher Retirement System of Texas makes retirement, disability, and death and survivor benefits to all employees of the public school system of Texas. The major provisions of the System may be summarized as follows:

A. RETIREMENT BENEFITS

1. Grandfather Criteria:

   To be grandfathered, you must have met at least one of the following requirements as a member on or before August 31, 2005: (i) at least 50 years old, or (ii) age and years of service credit equal at least 70, or (iii) have at least 25 years of service credit.

2. Normal Retirement Date:

   (a) end of month following age 65 and 5 years of creditable service,

   (b) end of month following age 60 and 20 years of creditable service, or

   (c) For members hired before August 31, 2007: end of month following attainment of "Rule of 80".

3. Standard Annuity:

   The product of 2.3% of the member's average compensation multiplied by years of creditable service. The average compensation is calculated as the average of the highest five annual salaries (based on creditable compensation). Members who as of August 31, 2005, were either age 50, had 25 years of service, or whose age plus service totaled 70 have their standard annuity calculated using the average of their highest three annual salaries.

4. Normal Retirement Benefits:

   Greater of standard annuity, or $150 per month.

5. Early Retirement:

   (a) after age 55 with 5 or more years of creditable service, or

   (b) after 30 years of creditable service, regardless of age.

(c) For members hired after August 31, 2007, end of month following attainment of "Rule of 80".

6. Early Retirement Benefits:

(a) If a member was hired prior to September 1, 2007, has more than 30 years of service but does not meet the Rule of 80, and has maintained continuous membership until retirement, the early retirement benefit is equal to the normal retirement benefit earned to the date of retirement, reduced by 2% for each point the member is less than the Rule of 80.

(b) If a member is grandfathered the early retirement benefit is equal to the normal retirement benefit earned to the date of retirement, reduced according to the following table:

	AGE AT DATE OF RETIREMENT					
Years of Service	55	56	57	58	59	60
20	90%	92%	94%	96%	98%	100%
21	92%	94%	96%	98%	100%	100%
22	94%	96%	98%	100%	100%	100%
23	96%	98%	100%	100%	100%	100%
24	98%	100%	100%	100%	100%	100%
25	100%	100%	100%	100%	100%	100%
26	100%	100%	100%	100%	100%	100%
27	100%	100%	100%	100%	100%	100%
28	100%	100%	100%	100%	100%	100%
29	100%	100%	100%	100%	100%	100%
30 or more	100%	100%	100%	100%	100%	100%

(c) If the member was hired before August 31, 2007 and either (1) is not grandfathered as described above, or (2) does not have 20 years of service, the early retirement benefit is equal to the normal retirement benefit earned to the date of retirement, reduced according to the following table:

	AGE AT DATE OF RETIREMENT										
Years of Service	55	56	57	58	59	60	61	62	63	64	65
5-19	47%	51%	55%	59%	63%	67%	73%	80%	87%	93%	100%

(d) If the member was hired after August 31, 2007 the benefit is reduced 5% per year from age 60.

7. Normal Form of Benefit:

Straight life annuity payable monthly with benefits commencing at end of month following retirement with the last payment payable on behalf of the annuitant in the month of death.

8. Optional Forms:

Option 1 - joint and 100% survivor, benefit reverts to normal form following the death of the joint annuitant.

Option 2 - joint and 50% contingent survivor, benefit reverts to normal form following the death of the joint annuitant.

Option 3 - 5 years certain and life.

Option 4 - 10 years certain and life.

Option 5 - Joint and 75% contingent survivor, benefit reverts to normal form following the death of the joint annuitant.

Partial Lump Sum Option - Members, with a combined age plus years of service that equals at least 90 and not participating in the DROP program, may select a partial lump-sum distribution not to exceed an amount equal to 36 months of a standard service retirement annuity. When this option is selected, the member's annuity will be actuarially reduced to reflect that distribution and will be computed so that no actuarial loss results to TRS.

9. Deferred Retirement Option Plan (DROP):

(a). Eligibility:

1) Must be an active contributing member.

2) Must be eligible for a standard service retirement annuity that is not reduced for retirement at an early age.

3) Must have at least 25 years of creditable service.

4) Must have entered the DROP program before January 1, 2006.

(b). Program Summary:

1) Participation begins the 1st of the month following the member's application and TRS approval of the application. Participation may begin in any month.

2) Participation may range from a minimum of one year to a maximum of five years, in 12-month increments. The member elects the period of participation at the outset.

3) The amount of the member's standard annuity is established as of the date of participation in the DROP. This amount is also used in determining the monthly deposit to the DROP account. A member will not accumulate further retirement annuity benefits during DROP participation, i.e., no further credit will be achieved from years of service or compensation changes.

4) Any special service credit that a member wishes to purchase must be paid in full prior to DROP participation.

5) A separate DROP account will be established for each participating member. Each month, an amount equal to 60 percent of the calculated standard annuity will be deposited into the account. At retirement, the account plus interest at the rate of five percent per annum will be distributed.

6) Member and employer contributions continue during DROP participation. Contributions are not deposited into the member's DROP account and will not be refunded.

7) Three events terminate participation - death, retirement or expiration of the participation period.

8) Upon retirement, participating members will receive their retirement annuity plus the balance in their DROP account including interest. DROP balances may be paid by TRS in a lump sum or on a time payout selected by the member.

10. Partial Lump-Sum Option Program:

Members, eligible for unreduced retirement and either (1) grandfathered or (2) meeting the Rule of 90, and not participating in the DROP program, may select a partial lump-sum distribution not to exceed an amount equal to 36 months of a standard service retirement annuity. When this option is selected, the member's annuity will be actuarially reduced to reflect that distribution and will be computed so that no actuarial loss results to TRS.

The percentage shown in the following table will be applied to reduce the standard annuity when the partial lump-sum option is elected.

	Percentage of Standard Annuity		
Age	12 Months	24 Months	36 Months
45	91.66	83.32	74.98
46	91.62	83.23	74.85
47	91.57	83.13	74.70
48	91.51	83.03	74.54
49	91.46	82.92	74.37
50	91.40	82.79	74.19
51	91.33	82.66	73.99
52	91.26	82.52	73.78
53	91.18	82.37	73.55
54	91.10	82.20	73.31
55	91.01	82.03	73.04
56	90.92	81.84	72.75
57	90.81	81.63	72.44
58	90.70	81.41	72.11
59	90.58	81.17	71.75
60	90.46	80.91	71.37
61	90.32	80.64	70.95
62	90.24	80.48	70.71
63	90.01	80.03	70.04
64	89.85	79.69	69.54
65	89.67	79.34	69.01
66	89.48	78.96	68.44
67	89.28	78.56	67.84
68	89.06	78.13	67.19
69	88.84	77.67	66.51
70	88.59	77.18	65.77
71	88.32	76.65	64.97
72	88.03	76.07	64.10
73	87.72	75.43	63.15
74	87.37	74.74	62.12
75	87.00	74.00	61.00
76	86.59	73.19	59.78
77	86.15	72.31	58.46
78	85.68	71.35	57.03
79	85.16	70.31	55.47
80	84.59	69.18	53.78
81	83.98	67.96	51.94
82	83.32	66.64	49.96
83	82.61	65.21	47.82
84	81.83	63.67	45.50
85	81.00	62.00	42.99
86	80.09	60.18	40.27
87	79.09	58.19	37.28
88	78.00	56.00	34.00
89	76.81	53.62	30.43
90	75.52	51.04	26.56
91	74.13	48.26	22.39

10. Minimum Annuity Payments:

    Total annuity payments shall in no case be less than the member's accumulated contributions at retirement. Upon the death of a retiree, the excess, if any, of accumulated contributions over total annuity payments received prior to death will be paid to the beneficiary.

B. DISABILITY BENEFITS

1. Less than 10 years of creditable service: $150.00 per month for the shorter of:

    (a) disability, or

    (b) number of months of creditable service as of date of disability retirement.

2. At least 10 years of creditable service: the greater of accrued retirement income or $6.50 per month per year of creditable service, payable for duration of disability; disability presumed continuous if it continues past age 60. The minimum disability payment made on behalf of a member will be no less than $150.00 per month.

C. DEATH BENEFITS

1. Eligibility: applicable if death occurs:

    (a) in service,

    (b) while absent from service for good cause,

    (c) while not in service but eligible to retire,

    (d) while not in service but would be eligible to retire without additional service before April 15 of the sixth school year after last creditable year of service, or

    (e) while receiving a disability benefit, but only eligible for 2f, below.

2. Benefit: any one of the following, at the option of the beneficiary:

    (a) a lump sum (not to exceed $80,000) equal to two times the rate of pay for the last year of service,

    (b) a lump sum (not to exceed $80,000) equal to two times annual pay for the year preceding last year of service,

    (c) 60 monthly payments of accrued standard annuity,

(d) a life annuity payable under Option 1 as if the member had retired on the last day of the month preceding death,

(e) a refund of accumulated contributions, or

(f) the survivor benefits, if eligible.

Note: Items (c) and (d) available only if member has at least 5 years of creditable service.

3. Benefit if Absent from Service Without Good Cause: return of accumulated contributions.

D. SURVIVOR BENEFITS

1. Benefits: (a) or (b) at the election of the beneficiary:

(a) lump sum payment of $10,000, or

(b) lump sum payment of $2,500 plus one of the following, if the designated beneficiary is eligible:

(i) if a spouse or dependent parent, $250 per month commencing at age 65,

(ii) if a spouse with children under age 18, $350 per month until youngest child reaches 18, then $250 per month commencing at spouse's age 65, or

(iii) if dependent children, $350 per month as long as at least two dependent children under 18, reducing to $250 per month when there is only one child under 18.

If benefits are payable under (i) or (ii) above and eligible spouse or dependent dies, payments will revert in accordance with (iii) above.

2. Eligibility:

(a) all employees eligible for a death benefit other than refund of accumulated contributions,

(b) any retired member, in addition to any benefit provided by his or her option of payment, or

(c) any disabled participant, in lieu of other death benefits (Item C2).

E. VESTING OF BENEFITS

1. Vesting: a member is fully vested after 5 years of creditable service.

2. Benefits upon Vesting: a fully vested member is entitled to the following:

   (a) upon becoming inactive, not required to withdraw accumulated contributions within seven years,

   (b) may apply at age 65 for normal retirement benefit equal to accrued standard annuity, or

   (c) may apply for any other retirement benefits for which he or she is eligible upon satisfying age requirement (if applicable) if he or she satisfied the corresponding service requirement at time of last termination; benefit is based on his or her full accrued standard annuity.

F. MEMBER CONTRIBUTIONS

6.40% of compensation per year.

G. STATE CONTRIBUTIONS

6.000 % of member compensation for FY2012 and 6.40% for each year thereafter.

H. LEGISLATIVE CHANGES MADE BY THE 1991 STATE LEGISLATURE

1. The minimum retirement benefit increased from $75 to $100 per month.

2. The disability death benefit changed to the same as a service retirement death benefit.

3. An ad hoc cost of living increase was approved for members who retired prior to May 1, 1989. The increase does not apply to a survivor benefit or to a disability benefit for a member who had less than 10 years of service at the time of retirement or death. The amount of the increase is five-tenths of one percent of each full six-month period between the latest effective date of retirement (or date of death) and August 1, 1991. The increase begins August 1991.

I. LEGISLATIVE CHANGES MADE BY THE 1993 STATE LEGISLATURE

1. Increase in survivor benefit by $50 per month.

2. Retroactive minimum benefit of $6.50 per year of service for members retired as of November 1, 1991.

3. An ad hoc cost of living increase approximating a 25% CPI catch-up. The actual percentage increase varies by year of retirement and has a minimum increase of 5%. The increase begins with the January, 1994 annuity check and covers all benefit recipients who began receiving benefits before August 31, 1991, except that it does not apply to survivor benefits or to a disability benefit for a member who had less than 10 years of service at the time of retirement or death.

4. ERS/TRS transfer provisions.

   (a) Service credit transfers allowed if the participant is a member of both ERS and TRS and has at least three years of service credit in the System from which the member is retiring.

   (b) A member may reinstate or purchase service credit in the other System prior to making the transfer if that member has at least three years of service credit in the current System.

   (c) TRS and ERS will jointly set rules for the assumptions used in computing asset transfer amounts. The transfer of funds between ERS and TRS takes place at the time of actual retirement.

J. LEGISLATIVE CHANGES MADE BY THE 1995 STATE LEGISLATURE

1. Unreduced benefits at retirement were expanded to include participants age 50 or older with 30 or more years of service.

2. Annuitants' benefits increased in an amount equal to the greater of:

   (a) A recalculation of benefits based on

      (i) January 1, 1995 law with all intervening ad hoc increases, plus

      (ii) A CPI catch-up increase.

(b) A recalculation of benefits for retirees who retired before September 1, 1993, based on a 2% multiplier and a minimum annual salary of a classroom teacher or full-time librarian as described by the Education Code. This annual salary is currently $17,000 based on current Education Code.

3. Treat all Option 1 and Option 2 benefits as including the pop-up feature.

4. The annuity payment in the month of death is payable on behalf of the annuitant.

5. The disability benefit payable when a member has less than ten years of service increased from $50 per month to $150 per month for both current and future disabled members. The minimum disability payment made on behalf of a member with ten or more years of service shall be no less than $150 per month.

6. The benefit increase reserve account in TRS was eliminated, resulting in the liability for all annuity benefits being included within the retired reserve account.

7. The maximum two-times-pay death benefit payable on behalf of a member would increase from $60,000 to $80,000.

K. LEGISLATIVE CHANGES MADE BY THE 1997 STATE LEGISLATURE

1. Driver's education pay is added to plan compensation for the determination of a member's best 3-year average compensation.

2. Disabled participants are allowed to select a Joint and Survivor annuity option after commencement of disability benefits, if they become married after date of disability.

3. Retirees are allowed to change the designated beneficiary for pension benefits payable after their death under certain conditions.

4. Adoption of "Rule of 80" criteria for unreduced standard retirement annuity (i.e., sum of member's age & credited service is greater than or equal to 80).

5. Elimination of $6.50 per month per year of service minimum standard retirement annuity benefit.

6. Addition of $50.00 to the minimum survivor benefit.

7. Creation of a Deferred Retirement Option Program (DROP), described in Item A8 above.

8. A CPI catch-up ad hoc cost-of-living increase for retired members.

L. LEGISLATIVE CHANGES MADE BY THE 1999 STATE LEGISLATURE

1. Increased multiplier from 2.0% to 2.2% effective September 1, 1999, and an equivalent 10% increase for all retirees.

2. A CPI catch-up ad hoc cost-of-living increase for retired members.

3. Established a partial lump-sum option at time of retirement.

4. DROP participant enrolled on or before August 31, 1999, have a one-year window from September 1, 1999 to revoke DROP participation.

5. For members entering DROP on or after September 1, 1999, the monthly DROP deposit will be reduced from 79% to 60% of the standard annuity.

10. Provides a lump-sum death benefit of $160,000 for an active member employed by a school district who dies due to a physical assault during the performance of their regular duties.

11. Allows a return to teaching after being retired at least 12 months without a reduction in the retirement benefit under certain circumstances.

M. LEGISLATIVE CHANGES MADE BY THE 2001 STATE LEGISLATURE

1. Increased multiplier from 2.2% to 2.3% effective September 1, 2001, and an equivalent 4.5% increase for all retirees.

2. A 6% ad hoc increase for retired members.

3. Increase in survivor benefits of $50 per month.

4. Allows a return to work as a bus driver with no reduction in the monthly benefit if retired with an unreduced benefit.

5. Permits purchase of up to 3 years of “air time” if the member has at least 7 years of actual membership service. Purchase price is the full actuarial cost of the purchased service.

N. LEGISLATIVE CHANGES MADE BY THE 2003 STATE LEGISLATURE

1. For employees hired on or after September 1, 2003, a 90-day waiting period is required for participation in TRS. Members may have the option to purchase this service. This provision is set to expire on September 1, 2005.

2. Limits the collection of overpayments to the three years prior to the overpayment discovery, except in cases of fraud or knowledge by the participant that the payments were incorrect.

3. Repealed the requirement that in order to reinstate service withdrawn after August 31, 2003, for the purposes of ERS/TRS transfer, the member must belong to the system from which the service is purchased.

4. Retirees who are employed by a third-party entity are considered to be employees of the school for return to work purposes unless the retiree does not perform duties or provide services in behalf of the school

5. Retirees may work as a substitute and on a half-time basis during a single calendar month as long as the total days worked do not exceed the number of days for one-half time employment for that month.

O. LEGISLATIVE CHANGES MADE BY THE 2005 STATE LEGISLATURE

1. Final average salary at retirement will be determined by the highest five years (instead of three years) of salary, subsidized early retirement will be eliminated, and partial lump sum option eligibility will require a combined age plus years of creditable service that equals at least 90 ("Rule of 90").

2. Future members (those who establish TRS membership on or after September 1, 2007) will have the following eligibility requirements to qualify for an unreduced annuity at retirement: (i) age 65 with 5 years of service, or (ii) age 60 with at least 5 years of service and meets the Rule of 80 (combined age and years of service equal at least 80).

3. Employers will be required to pay a monthly surcharge to the pension fund for each retiree working in a TRS-covered position and reported to TRS.

4. The Deferred Retirement Option Plan (DROP) is being discontinued for new participation effective December 31, 2005.

P. LEGISLATIVE CHANGES MADE BY THE 2007 STATE LEGISLATURE

1. The State contribution rate was increased to 6.58% for fiscal year 2008. In addition, the new law requires the State contribution rate to be at least equal to the member contribution rate.

2. The Legislature authorized TRS to make a one-time payment (13th check) in January 2008, if the August 31, 2007 actuarial valuation showed that the funding period would be less than 31 years with the payment. The payment is equal to the lesser of the member's December monthly payment or $2,400. To be eligible a retiree must have retired on or before December 31, 2006.

Q. LEGISLATIVE CHANGES MADE BY THE 2009 STATE LEGISLATURE

1. The Legislature included funding for a one-time supplemental payment of $500 million for current retirees. This appropriation was contingent upon a ruling by the Attorney General's office that such a payment is permissible under State law. The Attorney General determined this payment was not permissible, and therefore the additional appropriation will be contributed to the Trust as additional contributions, increasing the State contribution rate to an effective 6.644% for the biennium.

ACTUARIAL ASSUMPTIONS AND METHODS
(Adopted April 8, 2011)

ACTUARIAL ASSUMPTIONS

1. Investment Return Rate 8.00% per annum net of investment and administrative expenses, compounded annually, composed of an assumed 3.00% inflation rate and a 5.00% real rate of return

2. Mortality, Withdrawal, Disability Retirement, and Service Retirement Rates:

Rates and scales developed in the actuarial investigation as August 31, 2007, with values at specimen ages shown in the tables below:

a.

	PROBABILITY OF DECREMENT DUE TO	
Age	Death	Disability Retirement
	MALE MEMBERS	
20	0.000297	0.000003
30	0.000624	0.000042
40	0.000849	0.000381
50	0.001458	0.001287
60	0.003979	0.002455
70	0.012940	0.001760
	FEMALE MEMBERS	
20	0.000189	0.000006
30	0.000291	0.000065
40	0.000449	0.000234
50	0.000923	0.001256
60	0.002084	0.002436
70	0.007621	0.001658

Mortality Improvement: To account for future mortality improvement, the rates were chosen so that the assumed mortality rates are smaller than the rates observed in the most recent experience study. The ratio of the actual number of deaths occurring during this period to the expected number based on the selected assumptions was 108% for healthy male annuitants, 112% for healthy female annuitants, 103% for disabled male annuitants, and 110% for disabled female annuitants.

b. The following select tables are used for the first 10 years of employment:

Probability of Decrement Due to Withdrawal – Male Members
Years of Service

Age	0	1	2	3	4	5	6	7	8	9
20	0.2606	0.2266	0.1716	0.1335	0.1050	0.0000	0.0000	0.0000	0.0000	0.0000
30	0.2173	0.1890	0.1560	0.1233	0.0952	0.0789	0.0652	0.0648	0.0628	0.0536
40	0.2172	0.1888	0.1430	0.1253	0.0873	0.0833	0.0690	0.0608	0.0542	0.0464
50	0.1937	0.1684	0.1245	0.0993	0.0754	0.0684	0.0644	0.0544	0.0512	0.0466
60	0.2021	0.1757	0.1324	0.1160	0.0751	0.0664	0.0518	0.0495	0.0426	0.0341
70	0.2371	0.2062	0.1724	0.1174	0.1017	0.0000	0.0000	0.0000	0.0000	0.0000

Probability of Decrement Due to Withdrawal – Female Members
Years of Service

Age	0	1	2	3	4	5	6	7	8	9
20	0.1938	0.1685	0.1438	0.1263	0.1075	0.0000	0.0000	0.0000	0.0000	0.0000
30	0.1948	0.1694	0.1435	0.1218	0.1007	0.0935	0.0825	0.0724	0.0564	0.0570
40	0.1807	0.1571	0.1235	0.1052	0.0826	0.0743	0.0641	0.0578	0.0560	0.0459
50	0.1755	0.1526	0.1199	0.0971	0.0792	0.0708	0.0638	0.0549	0.0472	0.0402
60	0.1959	0.1703	0.1356	0.1082	0.0846	0.0660	0.0671	0.0509	0.0463	0.0438
70	0.2483	0.2159	0.1929	0.1994	0.1254	0.0000	0.0000	0.0000	0.0000	0.0000

The following table is used for all years after the first ten years of employment.

Probability of Decrement Due to Withdrawal
Based on Years from Normal Retirement

Years from Retirement	Male Members	Female Members	Years from Retirement	Male Members	Female Members
0	0.0000	0.0000	15	0.0283	0.0314
1	0.0090	0.0068	16	0.0291	0.0326
2	0.0121	0.0101	17	0.0299	0.0337
3	0.0143	0.0127	18	0.0306	0.0348
4	0.0162	0.0149	19	0.0313	0.0359
5	0.0178	0.0169	20	0.0318	0.0369
6	0.0192	0.0187	21	0.0322	0.0378
7	0.0205	0.0204	22	0.0325	0.0386
8	0.0217	0.0220	23	0.0327	0.0393
9	0.0228	0.0235	24	0.0328	0.0399
10	0.0239	0.0250	25	0.0329	0.0404
11	0.0248	0.0264	26	0.0330	0.0408
12	0.0258	0.0277	27	0.0331	0.0411
13	0.0267	0.0290	28	0.0332	0.0413
14	0.0275	0.0302	29	0.0333	0.0414

c. Rates of Retirement

(for members hired on or prior to August 31, 2007)

Probability of Decrement Due to Retirement – Male Members

	Years of Service							
Age	0-4	5-9	10-14	15-18	19	20-24	25-29	30+
50	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.370
55	0.000	0.010	0.010	0.010	0.010	0.010	0.190	0.190
60	0.000	0.020	0.020	0.020	0.020	0.240	0.240	0.240
65	0.000	0.250	0.250	0.250	0.250	0.250	0.250	0.250
70	0.000	0.200	0.200	0.200	0.200	0.200	0.200	0.200
74	0.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Probability of Decrement Due to Retirement – Female Members

	Years of Service							
Age	0-4	5-9	10-14	15-18	19	20-24	25-29	30+
50	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.300
55	0.000	0.010	0.010	0.010	0.010	0.010	0.200	0.200
60	0.000	0.030	0.030	0.030	0.030	0.250	0.250	0.250
65	0.000	0.250	0.250	0.250	0.250	0.250	0.250	0.250
70	0.000	0.250	0.250	0.250	0.250	0.250	0.250	0.250
74	0.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

There is a minimum 20% probability for retirement under the Rule of 80. For members who have 30 years of service but who have not attained age the Rule of 80, there is a 1% probability of retirement.

(for members hired after August 31, 2007)

Probability of Decrement Due to Retirement – Male Members

	Years of Service							
Age	0-4	5-9	10-14	15-18	19	20-24	25-29	30+
50	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010
55	0.000	0.010	0.010	0.010	0.010	0.010	0.010	0.010
60	0.000	0.020	0.020	0.020	0.020	0.240	0.240	0.240
65	0.000	0.250	0.250	0.250	0.250	0.250	0.250	0.250
70	0.000	0.200	0.200	0.200	0.200	0.200	0.200	0.200
74	0.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Probability of Decrement Due to Retirement – Female Members

	Years of Service							
Age	0-4	5-9	10-14	15-18	19	20-24	25-29	30+
50	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010
55	0.000	0.010	0.010	0.010	0.010	0.010	0.010	0.010
60	0.000	0.030	0.030	0.030	0.030	0.250	0.250	0.250
65	0.000	0.250	0.250	0.250	0.250	0.250	0.250	0.250
70	0.000	0.250	0.250	0.250	0.250	0.250	0.250	0.250
74	0.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

For members hired after August 31, 2007, the retirement rates for members once they reach unreduced retirement eligibility at age 60 are increased 10% for each year the member is beyond the Rule of 80 (i.e. if the member reached the Rule of 80 at age 58 then the probability of retirement at age 60 is 120% of the rate shown above).

2% will be added to the normal retirement rate as an adjustment of the rate for male members when they reach first eligibility. 4% is added for female members.

2% will be added to the early retirement rate for the grandfathered members with 20 or more years of service as an adjustment to the rate.

3. Rates of Salary Increase

Inflation rate of 3.00%, plus productivity component of 1.25%, plus step-rate/promotional component as shown:

	Annual Step Rate/ Promotional Rates of Increase		Total Annual Rate of Increase	
Years of Service	Males	Females	Males	Females
(1)	(2)	(3)	(4)	(5)
1	3.00%	3.00%	7.25%	7.25%
2	3.00%	3.00%	7.25%	7.25%
3	2.75%	2.75%	7.00%	7.00%
4	2.50%	2.50%	6.75%	6.75%
5	2.25%	2.25%	6.50%	6.50%
6	2.00%	2.00%	6.25%	6.25%
7-8	1.75%	1.75%	6.00%	6.00%
9-10	1.50%	1.50%	5.75%	5.75%
11	1.25%	1.25%	5.50%	5.50%
12	1.00%	1.00%	5.25%	5.25%
13-18	0.75%	0.75%	5.00%	5.00%
19-21	0.50%	0.50%	4.75%	4.75%
22-24	0.25%	0.25%	4.50%	4.50%
25 or more	0.00%	0.00%	4.25%	4.25%

This weighted average salary increase rate is 6.49% based on the active member service distribution as of August 31, 2011.

DISABILITY ANNUITANTS:

1. Investment Return Rate: 8% per annum, compounded annually.

2. Mortality: The PBGC Male Disabled Mortality Table for plan terminations after December 1, 1980, with a six-year setback and the PBGC Female Disabled Mortality Table for plan terminations after December 1, 1980, with a four-year setback.

Age	Probability of Mortality		Life Expectancy (Years)	
	Male	Female	Male	Female
55	0.0367	0.0264	15.81	20.98
65	0.0581	0.0339	12.19	16.62
75	0.0723	0.0421	9.48	12.06
85	0.1043	0.0813	6.06	7.23
95	0.2330	0.1825	3.10	3.84

SERVICE RETIREMENT ANNUITANTS, NOMINEES AND SURVIVORS:

1. Investment Return Rate: 8% per annum, compounded annually (benefit increase reserve account eliminated by the 1995 legislative session).

2. Mortality: Client specific tables; used for service retirement annuitants, beneficiaries and survivors. These tables are selected to best reflect the experience developed in the actuarial investigation as of August 31, 2010.

Age	Probability of Mortality		Life Expectancy (Years)	
	Male	Female	Male	Female
55	0.003684	0.002806	27.42	31.16
65	0.010893	0.006117	18.83	22.22
75	0.032206	0.019424	11.53	14.04
85	0.095215	0.068615	6.14	7.83
95	0.231740	0.163248	3.33	4.68

ERS/TRS TRANSFER ASSUMPTIONS:

A liability for the present value of the potential asset transfer has been calculated assuming that the TRS members who will be eligible for the transfer benefit are approximated by 10% of the inactive TRS members who have at least five years of service and have left their contributions on deposit. The liability is based on the actuarial present value of the deferred benefit assuming future salary increases at the current salary scale rates and that they will retire at the earliest age for which an unreduced benefit will be received.

HANDLING OF ACTIVE DATA WITH MISSING INFORMATION:

As of the close of each fiscal year there is a large number of records for whom no statistical data has been received. The only information TRS has is an identification number and initial contributions. Any of these records that were in the prior year's data are treated as non-vested terminated members. The remaining records are treated as new entrants. Beginning with the valuation as of August 31, 1993, active member results have been imputed for this new entrant error group according to the following procedures:

1. The count for this group has been added to the active member count.
2. Covered payroll and the present value of future pay have been increased by the product of the number of such members multiplied by average new entrant pay and present value of future pay.
3. The present value of future benefits for active members has been increased by the product of the new entrant normal cost rate multiplied by the imputed present value of future pay for this group, as determined under Item 2 above.

There are other records provided by TRS that have missing gender and/or missing date of births. These records are handled as follows:

1. 80% of records with missing gender are assumed to be female. The overall male/female ratio of the active membership is used to set this assumption.
2. Records with missing dates of birth are assigned a date of birth that produces an entry age equal to the average entry age for the overall active population, based on the member's actual service.

ASSUMPTION FOR DROP PARTICIPATION

It is assumed that no members will enter DROP.

BENEFIT ELECTION OF VESTED TERMINATING MEMBERS:

In determining the liabilities developed for future terminating vested members, it is assumed that the member elects either a refund or a deferred vested benefit, whichever is more valuable. The deferred benefit is assumed to commence at age 65.

ELECTION RATES FOR ACTIVE MEMBER DEATH BENEFITS:

It is assumed that the beneficiary will elect the death benefit option with the greatest value.

DECREMENT TIMING:

With the exception of retirement, all decrements are assumed to occur mid-year. Retirement is assumed to occur at the end of the year.

FORM OF PAYMENT:

Many forms of payment are available under the terms of the plan. As they are considered actuarial equivalent at the point of retirement, only the life only form of payment has been valued for members expected to retire in the future.

MARRIAGE ASSUMPTION:

100% of active members are assumed to be married.

SPOUSAL AGE DIFFERENCE:

Husbands are assumed to be three years older than their wives.

CLASSIFICATION OF WHO ARE ACTIVE MEMBERS:

For members who had no contribution postings during the just-completed plan year but did have a posting during one or more of the four preceding plan years:

1. 10% of such members will be assumed to return to contributing status in the new plan year (i.e., they will be assumed to be active for valuation purposes).

2. 90% of such members will be treated as inactives for the new plan year.

3. The 90% group will be valued as inactive vested or inactive nonvested depending on their years of service credit.

4. If they are considered inactive vested, their actuarial liability will be the present value of their accrued benefit assuming benefit commencement at the age when they first reach normal retirement eligibility with the vested service, plus the value of any death benefit.

5. If they are considered inactive nonvested, their actuarial liability will be their accumulated account balance.

AVERAGE SURVIVOR BENEFIT LIABILITY:

One of the options on the death of an active member, a disabled member, or a retired member is a survivor benefit. To determine the liability for this benefit the following average values are used.

		Males	Females
1.	Active member	$62,200	$59,000
2.	Disabled member	$13,000	$11,000
3.	Retired member	$12,000	$12,000

ACTUARIAL VALUE OF ASSETS:

The actuarial value of assets is equal to the market value of assets less a five-year phase in of the excess (shortfall) between expected investment return and actual income with the resulting value not being less than 80% or more than 120% of the market value of assets. The actual calculation is based on the difference between actual earnings and expected earnings each year, and recognizes the cumulative excess return (or shortfall) over a five-year period at the rate of 20% per year. The actuarial value of assets is further adjusted by 33% of any difference between the initial value and a 20% corridor around the market value of assets, if necessary. If the corridor is applicable for a given year, the next year's expected actuarial value of assets will be determined from the post-corridor adjusted asset value.

Expected earnings are determined using the assumed investment return rate and the beginning of year actuarial value of assets (adjusted for receipts and disbursements during the year). The returns are computed net of administrative and investment expenses.

PAYROLL GROWTH FOR FUNDING OF UNFUNDED ACTUARIAL ACCRUED LIABILITY:

1. Total payroll growth rate: 3.50%.

2. Portion attributable to inflation: 3.00%.

3. Portion attributable to active member growth: No growth.

ACTUARIAL COST METHOD:

The funding period required to amortize the unfunded actuarial accrued liability (UAAL) is determined using the Entry Age Actuarial Cost Method. This method assigns the plan's total unfunded liabilities (the actuarial present value of future benefits less the actuarial value of assets) to various periods. The unfunded actuarial accrued liability is assigned to years prior to the valuation, and the normal cost is assigned to the year following the valuation. The remaining costs are assigned to future years.

The normal cost is determined as a level percentage of payroll for a group of new entrants, based on actual new entrant experience for the period 2007-2010. This percentage of payroll is then applied to the total compensation for the prior year for all active members, and is then adjusted for the payroll growth assumption.

The actuarial accrued liability is the difference between the total present value of future benefits and the actuarial present value of future normal costs. The unfunded actuarial accrued liability (UAAL) is the excess of the actuarial accrued liability over the actuarial value of assets.

Since the State statutes governing the System establish the current employee and State contribution rates, the actuarial valuation determines the number of years required to amortize (or fund) the UAAL on a level percentage of payroll basis, taking into account the payroll growth assumption and the normal cost expressed as a percent of pay.

Because of this amortization procedure, any change in the unfunded actuarial accrued liability due to (i) actuarial gains and losses, (ii) changes in actuarial assumptions, or (iii) amendments, affects the funding period. The statutory goal is that the State contribution rate be sufficient to keep the funding period below 31 years.

FUNDING OF UNFUNDED ACTUARIAL ACCRUED LIABILITY:

Funded by the excess of future State contributions required by Law over the amount of such contributions required to fund the normal cost of benefits. Based on a study of all new entrants hired in the period from 2007 through 2010 and taking into account all changes in benefit provisions, the normal cost for benefits provided by the System is 10.60% of payroll (6.40% by members plus 4.20% by the State), which is 1.80% of payroll less than the total contributions required by Law. It is intended that the excess amount of 1.80% of payroll will be used to amortize any unfunded actuarial accrued liabilities of the System, assuming that total payroll increases by 3.50% per year.

As of the valuation as of August 31, 2011, these excess contributions of 1.80% of pay are insufficient to amortize the UAAL under the required time period.

DEFINITION OF ACTUARIAL TERMS

H.B. 2206 as passed by the 1979 Legislature requires that any actuarial study of a public retirement system include "a complete definition of each actuarial term used in the study". In our report we have attempted to avoid the use of a multitude of complex actuarial terminology, but we realize that different users of our reports may have differing opinions as to what constitutes an "actuarial term". Accordingly, in keeping with the intent and the spirit of the law, we offer the following definitions of several terms contained in this report which might be considered actuarial in nature. Any qualified user of our report who believes that additional terms should be included is invited to communicate such terms either directly to us or through the Teacher Retirement System of Texas.

1. *Actuarial Accrued Liability* - for benefits payable in the future to present members, it will equal the present value of benefits payable in the future to them less the present value of future normal costs.

2. *Actuarial Assumptions* - assumptions as to future experience under the System. Current actuarial assumptions are detailed in Table 21 of the current annual valuation report. Assumptions include future fund earning rates, rates of future salary increases, and rates of death (both before and after retirement), disability, retirement, and withdrawal. Effective August 31, 1985, select and ultimate assumptions were adopted for retirement and withdrawal rates and the salary scale.

3. *Actuarial Gain or Actuarial Loss* - a measure of the difference between actual experience and assumed experience of the System. Through the actuarial assumptions, rates of decrements, rates of salary increases, and rates of fund earnings have been forecasted. To the extent that actual experience differs from that assumed, actuarial liabilities emerge which may be the same as forecasted, or they may be larger or smaller than projected. Actuarial gains are due to favorable experience, e.g., the System's assets earn more than projected, salaries do not increase as fast as assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, actuarial losses are the result of unfavorable experience, i.e., actual results that produce actuarial liabilities which are larger than projected. Actuarial gains will shorten the time required for funding of the actuarial balance sheet deficiency while actuarial losses will lengthen the funding period.

4. *Actuarial Liabilities* - the actuarially determined present value of future benefits to be provided by the System. There are separate actuarially determined present values for retired members and non-retired members (either active or inactive). When applied to active members, it takes into account benefits which will be earned through future service and future salary increases.

5. *Actuarial Value of Present Assets* - the value of present System assets for valuation purposes. Prior to August 31, 1985, this value was the same as the book value of assets. Beginning August 31, 1985, through August 31, 1993, this value was calculated under the "market over book adjusted asset valuation method." Beginning August 31, 1993, this value is calculated

under a five-year phase in of the excess (shortfall) between expected and actual income return on the market value of assets.

6. *Actuarially Determined* - values which have been determined utilizing the principles of actuarial science. An actuarially determined value is derived by application of the appropriate actuarial assumptions to specified values determined by provisions of the law.

7. *Decrements* - those types of activities by members of the System which cause them no longer to be members, i.e., death, retirement, disability, and withdrawal. It is a general term referring to any or all of these membership terminating events.

8. *Defined Benefits* - in a retirement plan, benefits which are defined by a specific formula applied to specific member compensation and/or specific years of service. The amount of the benefit is not a function of contributions or actual earnings on those contributions.

9. *Defined Contributions* - in a retirement plan, periodic contributions to the plan which are defined as a specific percent of compensation.

10. *Experience Study* - a periodic review and analysis of the actual experience of the System which may lead to a revision of one or more actuarial assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified as deemed appropriate by the Actuary.

11. *Funding Period* - the number of years in the future that will be required to fund (i.e., pay off or eliminate) the unfunded actuarial accrued liability, based on the actuarial assumptions and assuming no future actuarial gains or losses.

12. *Future Benefits* - benefits specified in the law which will become payable at some time in the future when the member satisfies the requirement to receive such benefits.

13. *Future Contributions* - contributions to be made by the member or the State in the future, as required by the law.

14. *Normal Cost* - the actuarial cost to fund the benefits provided by the System were the funding to begin at date of hire. It is expressed as a percent of pay and is equal to the present value at hire of all possible benefits of the System divided by the present value of anticipated future compensation to be received by the new member. In the aggregate, it must be less than the total future contribution to the System if the unfunded actuarial accrued liability is to be amortized. Otherwise there must be a funding surplus sufficient in size to offset any contribution rate shortfall.

15. *Present Value* - the actuarially determined lump sum value as of the valuation date of a series of payments to be made in the future, where the lump sum value is equal to the sum of the discounted value of each future payment. The discounted value of each payment is the product of (a) the amount of the payment, (b) the probability that the payment will be made (based on the current actuarial assumptions as to future experience), and (c) the time value of money (based on the current assumed interest rate).

16. *Unfunded Actuarial Accrued Liability* - that portion of the actuarial accrued liability (including the present value of benefits presently being paid to retired members) that exceeds the value of current actuarial assets. A funding surplus exists if the actuarial accrued liability is less than the actuarial assets.