

UTAH RETIREMENT SYSTEMS
ACTUARIAL VALUATION REPORT
AS OF JANUARY 1, 2013

August 8, 2013

Utah State Retirement Board
540 East 200 South
Salt Lake City, UT 84102

Dear Members of the Board:

Subject: Actuarial Valuation as of January 1, 2013

This report describes the current actuarial condition of the Utah Retirement Systems (URS), determines the calculated employer contribution rates, and analyzes changes in these contribution rates. In addition, the report provides information required by URS in connection with Governmental Accounting Standards Board Statement No. 25 (GASB 25), and it provides various summaries of the data. Results of this report should not be used for any other purpose without consultation with the undersigned. Valuations are prepared annually as of January 1, the first day of the URS plan year. This report was prepared at the request of the Board and is intended for use by the URS staff and those designated or approved by the Board. This report may be provided to parties other than URS staff only in its entirety and only with the permission of the Board.

Under URS statutes, the Board of Trustees must certify employer contribution rates annually. These rates are determined actuarially, based on the Board's funding policy, although, as discussed below, under certain circumstances the Board may choose not to reduce the current rate if it is greater than the actuarially calculated rate. Contribution rates determined by a given actuarial valuation become effective eighteen months after the valuation date. In other words, the rates determined by this January 1, 2013 actuarial valuation will be used by the Board when certifying the employer contribution rates for the year beginning July 1, 2014 and ending June 30, 2015. If new legislation is enacted between the valuation date and the date the contribution rates become effective, the Board may adjust the calculated rates before certifying them in order to reflect this new legislation. Such adjustments are based on information supplied by the actuary.

FINANCING OBJECTIVES AND FUNDING POLICY

In setting contribution rates, the Board's principal objectives are:

- To set rates so that the unfunded actuarial accrued liability (UAAL) will be amortized over a reasonable period from the current valuation date
- To set rates so that they remain relatively level over time.

To accomplish this, the Board's funding policy requires that the employer contribution rate be at least equal to the sum of the employer normal cost rate (which pays the current year's cost) and

an amortization rate which results in the amortization of the UAAL over 25 years in installments that increase at the assumed rate of growth in payroll for URS. The 25-year amortization period is measured from January 1, 2009, so 21 years remain at the current valuation date.

Under this policy, the objective of maintaining a relatively level contribution rate over time is achieved in normal conditions such as consistent financial markets.

Section 49-11-301(5) of the Utah Code allows the Board to set the employer contribution rate at the prior year's rate, if the rate otherwise would decrease and if the funded ratio is less than 110%. In such a case, the rate set by the Board would be higher than the actuarially determined contribution rate. The purpose of this legislation is to enhance the Board's ability to maintain more level contribution rates while targeting a 100% - 110% funded level. The Board has historically followed this policy, so for some funds the recommended contribution rate may be greater than the actuarially determined rate. This year, however, for most of the funds, the actuarially determined contribution rates were larger than the rates being paid in FY 2014.

PROGRESS TOWARD REALIZATION OF FINANCING OBJECTIVES

The funded ratio (the ratio of the actuarial value of assets to the actuarial accrued liability) is a standard measure of a plan's funded status. In the absence of benefit improvements, it should increase over time, until it reaches at least 100%.

For all systems on a combined basis, the funded ratio decreased from 79.5% to 77.1%. This decrease was primarily due to the recognition of the final 20% of the extraordinary investment loss that occurred in 2008. Absent unfavorable actuarial experience, we expect the funded ratio to gradually increase in future years.

If market value had been used in the calculation instead of actuarial value, the aggregate funded ratio for all funds combined would have been 79.9% compared to 75.1% in the prior year. The increase in the funded ratio on a market value basis is due to asset returns exceeding the expected return assumption. In particular, the investment return during 2012 on a market value basis was 12.6%, which provided \$1,017 million more in assets than was expected.

BENEFIT PROVISIONS

The benefit provisions reflected in this valuation are those which were in effect on January 1, 2013, or which were adopted by the end of the 2013 legislative session and are effective on or before July 1, 2014. There were no legislative changes enacted since the previous valuation that had a measurable effect on the current valuation. However, it is worth noting an older piece of legislation and a couple of changes in the Retirement System's administration policies.

SB 19 was enacted during the 2008 legislative session and opened a window until December 31, 2012, allowing employers of the Public Safety Systems to elect a 4.0% maximum COLA. Adoption of the 4% maximum COLA was mandatory for the State of Utah. Employers that elect the 4.0% maximum COLA will be entitled to a share of the funds held in the Public Safety Retirees' Cost-of-Living Increases Restricted Account. As of December 31, 2012, the date this election window closed, the market value of this fund was \$6.0 million. As a result, the money in the restricted account was allocated in proportion to the total actuarial accrued liability of each 4.0% maximum COLA public safety fund.

The Retirement System implemented two modifications regarding the delivery of benefits to members. First, the 75% of pay death benefit provided to active employees in the Tier I Public Employee Systems and all active Tier II members in accordance with Sections 501 of the Utah Code for the representative systems is now provided through the qualified defined benefit plan.

Second, the Retirement System modified its administration policy regarding the Long Term Disability (LTD) benefit protection contracts (BPC) covering Tier II members. Employers make an election whether they will provide their employees BPC coverage. Disabled Tier II members covered by a BPC will continue to earn benefit accruals during the duration of their LTD coverage. Employers electing to provide BPC coverage are required to pay the total contribution rate in the imputed pay of all their Tier II members approved for LTD. Tier II members who are employed by a participating employer who elected to waive BPC coverage will not receive benefit accruals during their period of disability. In other words, the retirement benefit for these disabled members will be equal to the retirement benefit they accrued as of their date of disability.

ASSUMPTIONS AND METHODS

The actuarial assumptions and methods used to perform this valuation remain unchanged from the prior valuation, including the use of a 7.50% investment return assumption. The actuary reviews the investment return assumption each year and provides consultation to the Board regarding its appropriateness. The Board has the authority to change this assumption each year. The Board, under the actuary's advisement, decreased the investment return assumption to 7.50% in 2011. It is our opinion that a 7.50% investment return assumption continues to be appropriate for performing the January 1, 2013 actuarial valuation.

The demographic assumptions are reviewed in detail every three years. The next experience analysis to review the demographic assumptions is scheduled for 2014.

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 and calculated contribution rates.

It is our opinion that the assumptions used to perform this valuation are internally consistent and are reasonable based on past and anticipated future experience of the System. The actuarial assumptions and methods used in this report comply with the parameters for disclosure that appear in GASB 25.

DATA

Member data for retired, active and inactive members was supplied as of December 31, 2012 by the URS staff. The staff also supplied asset information as of December 31, 2012. We did not audit this data, but we did apply a number of tests to the data and concluded that it was reasonable and consistent with the prior year's data. GRS is not responsible for the accuracy or completeness of the information provided to us by URS.

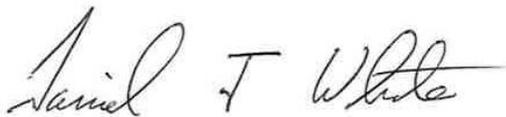
CERTIFICATION

We certify that the information presented herein is accurate and fairly portrays the actuarial position of URS as of January 1, 2013.

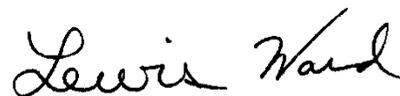
All of our work conforms with generally accepted actuarial principles and practices and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, our calculations also comply with the requirements of Utah state law and, where applicable, the Internal Revenue Code, ERISA, and the Statements of the Governmental Accounting Standards Board.

The undersigned are independent actuaries and consultants. Mr. White is an Enrolled Actuary and a Member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. Both consultants below are experienced in performing valuations for large public retirement systems.

Sincerely,



Daniel J. White, FSA, EA, MAAA
Senior Consultant



Lewis Ward
Consultant

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SECTION I
EXECUTIVE SUMMARY

EXECUTIVE SUMMARY AND CONTRIBUTION REQUIREMENTS

- Contribution rates have increased due to the recognition of the 2008 investment loss. The 2008 investment loss is now fully recognized in the calculation of the actuarial value of assets.
 - For State & School divisions, an increase of 1.73% of payroll.
 - Fund 16 – Noncontributory State & School increased from 20.46% to 22.19% of payroll.
 - For Local Government, an increase of 1.18% of payroll.
 - The recommended contribution rate for the defined benefit portion of the Tier II Public Employee Retirement System decreased by 0.19% from 8.41% to 8.22%. Similarly, the recommended contribution rate for the defined benefit portion of the Tier II Public Safety and Firefighter Retirement System decreased by 0.19% from 10.91% to 10.72%. The decrease in the contribution rates reflects the Retirement System’s change in policy regarding LTD benefit protection contracts covering Tier II members.
 - The contribution increases for the other funds vary. The increases in recommended contributions are shown in column (8) on Exhibits 1(a) and 1(b).
 - The net employer contribution rates for both firefighter funds increased. The employer rate for Fund 31 (Division A) increased from 2.96% to 3.82% and the rate for Fund 32 (Division B) increased from 4.46% to 6.59%. The member contribution rates remained unchanged at 15.05% for Division A and 16.71% for Division B.
 - See Exhibit 2(b) for details about the offsets applied to contribution rates for Firefighters.
- Total projected contributions for all funds combined are estimated to be \$1.1 billion for fiscal year 2015.
- Exhibits 1(a) and 1(b) show the new recommended contribution rates, and compare these to the rates certified for FY 2014 based on the last valuation.
 - Rates include funding for the 3% substantial substitute benefit, where applicable.
 - Rates do not include the 1.50% 401(k) contribution.
 - Rates for the 2015 fiscal year include the cost for the active death benefit for the Tier I Public Employees Retirement Systems.
 - Offsets for Firefighters System and Judges System are shown.
 - Rates shown on this table are the recommended contribution rates, and not necessarily the actuarially determined rates. Under Utah Code §49-11-301(5), the Board may keep the contribution rate at the prior year’s level, in order to reach and maintain a 110% funded ratio.
 - Rates shown on Exhibits 1(a) and 1(b), column 6 are for the twelve-month period beginning July 1, 2014 (FY 2015).

- Rates may need to be adjusted for the effect of 2014 legislation.
- Exhibits 1(c) and 1(d) show the development of the recommended rates under §49-11-301(5). The recommended rates are the larger of the actuarially calculated rates from the current valuation (Col. 2) and the rates certified for FY 2014 (Col. 3).
 - §49-11-301(5) permits the Board to set the contribution rate at the prior year's level if the actuarially calculated rate would be less and the funded ratio is less than 110%.
 - The Tier II Public Safety and Firefighter Retirement System is 111.5% funded. The recommended contribution rate is reduced to reflect the change in the Retirement System's administration of the LTD benefit protection contracts covering Tier II members.
 - The policy is applied to the gross rates for the Tier I Firefighter funds and the Judges, i.e., before application of the offsets for the fire insurance premium tax receipts and the court fees.
 - This policy is separately applied to the contribution rate for the 3% substantial substitute that is included with the contribution rates for the State and School funds, the State Public Safety funds and the Judges.
- Exhibit 2(a) shows the components of the actuarially determined contribution rate, and Exhibit 4(a) reconciles the actuarially calculated rates determined by this valuation and the previous valuation.
 - Most of the funds experienced an increase in their actuarially calculated contribution rate.
- There were no legislative changes enacted since the previous valuation that had a measurable effect on the current valuation. However, an older piece of legislation and two changes in the Retirement System's administration policies had some impact on contribution rates.
 - The 4% Maximum COLA benefit window closed on December 31, 2012. Employers that elected the 4.0% maximum COLA receive a proportionate share of the \$6.0 million funds held in the Public Safety Retirees' Cost-of-Living Increases Restricted Account. The allocation of these funds offset 0.23% to 0.27% of the increase in the contribution rates for these funds.
 - The 75% of pay death benefit provided to active employees in the Tier I Public Employee Systems and all active Tier II members is now provided through the qualified defined benefit plan. This increased the cost of this benefit for the public employee funds by 0.02% and decreased the cost for this benefit for the Tier II public safety and firefighter system by 0.03%.
 - Employers made an election regarding the Long Term Disability (LTD) benefit protection contracts (BPC) covering Tier II members. Employers providing BPC coverage are now required to make the full contribution to the system on the imputed pay of their disabled members. The recommended contribution for the defined benefit component of the Tier II

Public Employee Hybrid Retirement System and Tier II Public Safety and Firefighter Hybrid Retirement System decreased by 0.19% as a result of this policy change.

- Amortization payments are based on:
 - A 21-year amortization period (25 years from January 1, 2009) is used for determining the contribution rates
 - Contributions determined as level percentage of pay (except for Governors and Legislators Plan, where amortization is in level payments)
 - Total payroll increases of 3.50% per year
 - No future growth in the number of active members is taken into account
 - For purposes of determining the pension accounting cost, or ARC under GASB 25, only the payroll of the Tier I and Tier II Hybrid Retirement Systems are considered. The ARC will be equal to the certified contribution rate, but the ARC's amortization period may be different than the period used to determine the certified contribution rate
- The plan earned 12.60%, net of investment and administrative expenses, on a market-value basis during 2012
 - The actual market value as of December 31, 2012 (\$22.151 billion) was \$1,017 million more than the expected market assets at this date based on a 7.50% return assumption
- Plan uses actuarial value to determine contribution rates and funded status
 - 5-year smoothing of net earnings above or below the investment return assumption
 - Method reflects just 20% of investment gain or loss each year
 - The extraordinary investment loss incurred during 2008 is now fully recognized in the actuarial value of assets
 - Actuarial value of assets is approximately 96% of the market value on a combined asset basis.
 - No funds are impacted by the 25% corridor on the actuarial value
 - 2.7% return on actuarial value of assets
 - Impact on contribution rates shown on Exhibit 4(a) col. (4), and Exhibit 4(b) col. (5).
- The local government, state and school, firefighters, as well as a majority of the public safety funds experienced liability gains.
 - Impact on contribution rates shown on Exhibit 4(a) col. (5), and Exhibit 4(b) col. (4)
- The Governors and Legislative Plan was 76.1% funded as of January 1, 2013. We recommend a \$421,009 appropriation be made to the plan on or before June 30, 2015. Please see Exhibit 16.

SECTION II
DISCUSSION

DETERMINATION OF CALCULATED CONTRIBUTION RATES

The URS retirement systems, except for the Governors' and Legislators' Retirement Plan, are funded by employer contributions which are expressed as a percent of pay, and in some cases by member contributions. The Firefighters System and the Judges System receive additional funding from outside sources. As shown in Exhibit 2(a), the employer contribution rate can have as many as four components:

- The normal cost percentage (NC%)
- The amortization percentage (UAAL%)
- The contribution required to fund the 3% substantial substitute benefit (3%SS)
- The offset for fire insurance premium taxes and court fees which reduce the employer contribution rates in the Firefighters System and the Judges System, respectively.

The NC% is the theoretical amount which would be required to pay the members' benefits, based on the current plan provisions, if this amount had been contributed from each member's entry date and if the fund's experience exactly followed the actuarial assumptions. This is the amount it should cost to provide the benefits for an average new member. The NC% for each fund is shown in Exhibit 6(a).

Some of the funds require active member contributions, and for these, only the excess of the NC% over the member contribution rate is included in the employer contribution rate, as shown in Exhibit 6(b) and in column 2 of Exhibit 2(a).

The actuarial accrued liability (AAL) is the difference between (i) the actuarial present value of all future benefits for all current members of the fund, including active, inactive and retired members, and (ii) the actuarial present value of future normal costs. Thus, the AAL represents the liability associated with past years. The unfunded actuarial accrued liability (UAAL) is the difference between the AAL and the actuarial value of assets (AVA). It is the shortfall/excess between the liability associated with prior years (the AAL) and the assets actually accumulated (the AVA). This shortfall/excess can arise from several sources, including actuarial gains and losses which are caused by differences between actual experience and the plan's assumptions, changes to the plan's actuarial assumptions, and amendments to the benefit provisions.

The UAAL% is the amount required to fund this difference. It is the amount, expressed as a level percentage of payroll, necessary to amortize the UAAL. The Board's current policy calls for amortizing the UAAL over 25 years from Jan. 1, 2009, so the development of the current amortization rate for 2013 is based on a funding period of 21 years. Column 3 of Exhibit 2(a) shows the UAAL% for each fund.

The 3% Substantial Substitute component of the employer contribution rate is only required for funds whose members are employees of the state (or who are paid by state funding). This piece is the amount necessary to fund the 3% Substantial Substitute. It is shown in column 4 of Exhibit 2(a), and is described in greater detail later.

The last piece of the contribution rate is the offset. The Firefighters System receives a portion of the fire insurance premium taxes collected by the state, and the Judges System receives a portion of court fees collected by the judiciary. The calculation of the offsets is shown in Exhibit 2(b).

Section 49-11-301(5) of the Utah Code gives the Board the option of setting contribution rates at the higher of the previous year's rate and the current year's actuarially calculated rate. The Board does not have to decrease the contribution rate from the prior year as long as it is funding towards or maintaining a funded ratio of 110%. The Board has historically followed the policy of holding the rates constant, but not less than the actuarially calculated rate, as permitted by §49-11-301(5).

Under the policy, the actuarial rates and last year's certified rates are compared, and the larger is set as the new certified rate. This is done separately for the contribution for the 3% Substantial Substitute fund, and then the rate for the 3% Substantial Substitute is added to the regular contribution rate, as shown on Exhibit 1(c). Then the offset for the fire insurance premium tax and the court fees are applied, as shown in Exhibit 1(a).

The contribution rates set in this valuation will become effective for the twelve-month period beginning July 1, 2014 (FY 2015).

The Governors' and Legislators' Retirement Plan, unlike the other systems, is funded by direct legislative appropriations. Similar to last year, we are recommending an appropriation be made for this plan by the end of FY 2015. Please see the discussion about the determination of the appropriation later in this section and the calculation of the appropriation on Exhibit 16.

Exhibit 2(a) also shows the development of the calculated contribution rate for the Tier II Hybrid systems. The State makes contributions on Tier II payroll towards the 3% substantial substitute. However, since the Tier II Hybrid Plans are cost sharing plans and the State and local governments participating in the plans do not have separate Tier II Hybrid Plan contribution rates, the rates shown on Table 2(a) exclude the 3% Substantial Substitute contribution.

All employers in Tier II must make an additional contribution, based on the payroll of their Tier II employees, towards the amortization of their Tier I unfunded liabilities. This additional contribution rate is not shown on Exhibit 2(a) because it varies by employer. However, the additional amortization payment for each fund is shown in Column 7 of Table 1(d). This additional amortization payment also includes the payment for the 3% Substantial Substitute if applicable.

FINANCIAL DATA AND EXPERIENCE

As of December 31, 2012, the retirement systems that are part of URS have a total market value of \$22.151 billion. This excludes assets of the defined contribution plans that are also administered by URS. Assets of the various funds and systems are commingled for investment purposes. Financial information was gathered from the 2012 URS Comprehensive Annual Financial Report, with additional information provided by the URS staff.

The market value for the State's Public Safety fund shown in the CAFR includes \$6.0 million that is the Public Safety Retirees' Cost-of-Living Increases Restricted Account. The special window allowing employers to make an election to provide their members a 4% COLA closed on December 31, 2012. As a result, the funds in this account were allocated to all Public Safety funds with a 4% COLA provision as of January 1, 2013 in proportion of the total actuarial accrued liability of each fund. Details regarding this allocation are discussed in a later section.

This report includes a number of exhibits related to plan assets. Exhibit 11(a) shows how the total market value is distributed among the various classes of investments. Currently, 63% of invested assets are held in equities and alternative investments, compared with 62% last year and 60% the year before.

Exhibit 11(b) shows a reconciliation, for each fund, of the market values between the beginning and end of 2012. The contributions shown in column 3 of Exhibit 11(b) include employer and member contributions, as well as court fees and fire insurance premium tax receipts. The 3% substantial substitute fund is shown as a separate item.

During 2012, the total investment return on market values was 12.6%, as shown on Exhibit 12(a). This return is net of all investment and administrative expenses.

In determining the contribution rates and funded status of the funds, an actuarial value of assets (AVA) is used, rather than the market value of assets. The method used to compute the AVA takes the difference between actual earnings and expected earnings (based on the assumed rate of investment return) each year, and recognizes the difference over five years, at 20% per year. This is intended to reduce the volatility of the contribution rates from year to year. This "smoothed" asset value is then subjected to the further constraint that the actuarial value of assets cannot be less than 75% or more than 125% of the market value of assets. For 2013, the 5-year smoothed asset value is \$21.4 billion for all systems combined, or 96% of the market value of assets.

The development of the AVA is shown on Exhibits 13 and 14. URS staff prepared the initial calculation of the AVAs, but these were reviewed and modified by GRS.

Some funds in the Contributory Public Employees System and the Contributory Public Safety System are paired with funds in the Noncontributory Public Employees and Noncontributory Public Safety systems. For example, Fund 23, Other Division A, in the Contributory Public Safety System is paired with Fund 43, Other Division A, in the Noncontributory Public Safety System. In these cases, URS has established a policy of maintaining either the same difference between contribution rates for pairs of funds, or it maintains equal amortization percentages. To accomplish this, assets are transferred each year between fund pairs, as necessary. Because the 4% COLA funds in the Public Safety funds also contain employers that have members in both the Contributory and Noncontributory systems, we have continued the practice of pairing funds and transferring assets between the paired funds to produce the same amortization payment as a percentage of pay. For this purpose, Funds 77 & 75 are paired as are Funds 74 & 76. Exhibit 14, column 6 shows the change that must occur to the AVA in order to accomplish this. Exhibit 14, column 3 shows how much must be transferred between systems to accomplish this in terms of market value.

In addition to the market return, Exhibit 12(a) also shows the return on the actuarial value for URS. For 2012, this return was 2.7%. Because this is less than the assumed 7.50% investment return for 2012, the plan experienced a loss on the actuarial value of assets. Exhibit 12(b) shows a summary of market and actuarial return rates in recent years.

Exhibits 4a and 4b show the reconciliation of the contribution rates and the unfunded actuarial accrued liabilities from the last valuation to this one, including the effect of asset and liability gains and losses, changes in assumptions, changes in plan provisions, etc.

MEMBER DATA

Member data was supplied by URS staff on electronic files as of December 31, 2012. While we did not audit this data, we did perform various tests to ensure that it was internally consistent, consistent with the prior year’s data, and was reasonable overall.

The number of public employees decreased from 93,672 to 92,744. Similarly, the number of public safety and firefighters decreased from 9,643 to 9,580. The following table provides the number of Tier I and Tier II employees as of the valuation date for these two groups.

Tier I and Tier II Employee Count				
	Tier I	Tier II Hybrid Plan	Tier II Defined Contribution¹	Total
All Public Employee Funds ²	82,728	9,510	506	92,744
All Public Safety and Firefighter Funds	9,123	439	18	9,580

¹ Tier II members electing the defined contribution plan will be moved into that plan after their first year of employment and their election becomes irrevocable.

² Excludes employees in the Judges and Governors and Legislative Retirement Funds.

For all the funds combined, the number of retirees (including disables and beneficiaries) increased from 49,381 to 51,677. There are now 2.0 employees for every retiree in the Retirement System.

Exhibit 8 shows the number of members by category (active, inactive, retired, etc.) and by fund. Exhibit 9 shows active member statistics by fund, and Exhibit 10 shows retiree statistics by fund. Exhibits 17(a)-17(i) show summaries of certain historical data, including membership statistics, for each system.

BENEFIT PROVISIONS

Appendix 2 includes a summary of the benefit provisions for each of the retirement systems in URS. The valuation would typically reflect any benefit changes enacted by the 2013 legislature. Although not effective on the valuation date, such legislation would generally be effective on or before the contribution rates actually go into effect at July 1, 2014.

The Retirement System implemented two changes regarding the administration and delivery of benefits provided to members. First, the 75% of pay death benefit provided to active employees in the Tier I Public Employee Systems and all active Tier II members in accordance with Section 501 of the Utah Code for the representative systems is now provided through the qualified defined benefit plan. The cost of this benefit is valued using the Entry Age Normal cost method.

The cost of the death benefit provided to the active members in the Tier I Public Employee Systems is included and communicated with the total actuarially calculated rate for each applicable fund. The cost of the death benefit provided to the active members in the Tier II Retirement Systems (Hybrid and Defined Contribution Systems) for Public Employees and Public Safety and Firefighters is identified and communicated as a separate cost that is in addition to the 10% of pay annual contribution requirement for the Tier II Public Employees and the 12% of pay annual contribution requirement for Tier II Public Safety and Firefighters. This is the same procedure for charging employers the cost of this benefit when it was provided through URS's Public Employees Health Program (PEHP).

The Retirement System also modified its administration processes regarding the Long Term Disability (LTD) benefit protection contracts (BPC) covering Tier II members. Employers make an election whether they will provide their employees BPC coverage. Disabled Tier II members covered by a BPC will continue to earn benefit accruals during the duration of their LTD coverage. Employers providing BPC coverage are required to pay the total contribution rate on the imputed pay of all their Tier II members approved for LTD. On the other hand, Tier II members who are not covered by a BPC will not receive benefit accruals during their period of disability. In other words, the disabled member's retirement benefit commencing on their normal retirement date will be equal to the retirement benefit they accrued as of their date of disability. The recommended contribution for the defined benefit component of the Tier II Public Employee Hybrid Retirement System and the Tier II Public Safety and Firefighter Hybrid Retirement System decreased by 0.19% as a result of this policy change.

ACTUARIAL METHODS AND ASSUMPTIONS

Appendix 1 includes a summary of the actuarial assumptions and methods used in this valuation.

The actuary reviews the investment return assumption each year and provides consultation to the Board regarding its appropriateness. The Board has the authority to change this assumption each year. It is our opinion that a 7.50% investment return assumption continues to be appropriate for performing the January 1, 2013 actuarial valuation.

An experience study was last conducted in conjunction with the 2011 valuation which resulted in a number of changes to the assumptions. Current Board policy is to perform an experience study to review the demographic assumptions every three years. Therefore, the next experience study is scheduled to be performed in 2014.

The actuarial assumptions and methods used to determine the results of the 2013 actuarial valuation are the same as those used for the prior year's valuation. Please see Appendix 1 of this report for a complete description of these assumptions.

GASB 25 AND FUNDING PROGRESS

Governmental Accounting Standards Board Statement No. 25 (GASB 25) contains certain accounting requirements for URS. In particular, it requires the inclusion of two special schedules in the URS annual report:

1. Schedule of Funding Progress
2. Schedule of Employer Contributions

Information needed to prepare the Schedule of Funding Progress is included in Exhibit 3(a). This shows that overall URS has a funded ratio (ratio of actuarial assets to accrued liabilities) of 77.1%. This is a decrease from the prior year when the funded ratio was 79.5%. This decrease is primarily attributable to the recognition of the remaining 20% of the extraordinary investment loss that occurred in 2008. The invested loss of 2008 is now fully recognized in the calculation of the actuarial value of assets and the funded status of the plan. Absent future actuarial losses, it is expected that the funded status of the plans will gradually increase in future years. See Exhibit 3(a), column 5.

GASB 25 also requires that plans calculate an Annual Required Contribution (ARC), and, if actual contributions received are less than the ARC, this must be disclosed. For this disclosure, URS treats the Board-established employer contribution rate as the ARC, as long as this produces a funding period of less than 30 years. Under GASB 25, the ARC must be calculated in accordance with certain parameters. In particular, it must include a payment to amortize the UAAL. This amortization payment must be computed using a funding period no greater than 30 years. Further, the amortization payment included in the ARC may be computed as a level amount, or it may be computed as an amount which increases with payroll. However, if payments are computed on a level-percent-of-payroll approach, the payroll growth assumption may not anticipate future membership growth.

For purposes of determining the contribution rate for funding purposes, the amortization rate is calculated using the payroll of the Tier I and Tier II Retirement Systems (including payroll of the Tier II Defined Contribution Plan). However, the amortization period of the ARC, as reported under Governmental Accounting Standards Board Statement No. 25 (GASB 25), is determined using the payroll of the Tier I and Tier II Hybrid Retirement System (excluding the payroll of the Tier II Defined Contribution Plan). The amortization cost of the contribution rate and the pension ARC (i.e. pension accounting cost) are determined using a level-payroll amortization of the UAAL.

The calculated employer contribution rate for funding purposes is computed using a 21-year amortization period. (The Board set a 25-year amortization period at January 1, 2009.) Since the recommended employer rate is the greater of the prior year's certified rate or this year's calculated rate and the amortization period of the ARC (determined using a different covered payroll) does not exceed 30 years, the recommended rate meets the definition of an acceptable ARC.

GOVERNORS AND LEGISLATIVE PENSION PLAN

The Governors and Legislative Pension Plan (Leg/Gov Plan) is funded by direct appropriations rather than through pay-period contributions. Since the plan is less than fully funded for 2013, we are recommending an appropriation for fiscal year 2015. Please see Exhibit 16 for the determination of the appropriation amount. We also anticipate that appropriations will be recommended for each fiscal year for the next several years.

The Leg/Gov Plan is unique among the retirement systems in URS in that neither the benefits of the plan nor the contributions to the plan are tied to member pay. As a result, the calculation of the appropriation is performed in a slightly different manner than the determination of the contribution rates for the other funds.

The Entry Age Normal funding method is used to determine the cost allocation of the contribution requirements because it produces a cost pattern that remains level over time (if the assumptions are met). With the other URS systems, the cost is determined so as to remain level as a percentage of pay over time. Since neither the contributions nor benefits of the Leg/Gov Plan are pay related, we have determined the cost as a level dollar amount. This method will produce appropriations that should remain level over time (if the actuarial assumptions are exactly met).

The Entry Age Normal level dollar approach will be used to determine the normal cost and actuarial accrued liabilities of the Leg/Gov Plan. In addition, the determination of the amortization payment for amortizing the unfunded liabilities of the system is determined using a level dollar approach as well. This valuation determines the appropriation for fiscal year 2014. Because of the lag between the determination of the dollar contribution amount and the payment of the contribution, we included an adjustment for interest in the determination of the appropriation.

The recommended appropriation for fiscal year 2015 is \$421,009. The allocation of this appropriation to the Governor's Office, House, and Senate is \$18,898, \$289,984, and \$112,127, respectively.

The allocation of the Plan's normal cost was based on the number of active positions in each of the branches of government. Since the current Governor does not participate in the defined benefit plan, there is no normal cost assigned to the Governor's Office. Therefore, the normal cost was allocated to just the House and Senate based on their percentage of positions that are eligible for coverage (75 House members and 29 Senators). Because there are only three former governors on whose behalf benefits are payable (or will be payable in the future), we directly determined the liability and amortization charge directly for the Governor's office based on that percentage of the total liability of the Plan. We then allocated the remaining liability between the House and Senate in the same manner as the allocation of the normal cost. Finally, the interest charge was allocated in proportion to the sum of the normal cost and amortization charges.

We believe this procedure fairly allocates the required appropriation to the three entities.

FIREFIGHTERS AND JUDGES OFFSETS

A portion of the fire insurance premium taxes collected by the State of Utah is contributed to the Firefighters System, and a portion of the court fees collected by the state judiciary is contributed to the Judges System. To account for this prospectively, the recommended contribution rates for the funds in these systems are reduced.

In order to dampen year-to-year fluctuations in the offsets, we use a rolling three-year average of the fire insurance premium receipts and court cost in computing the offsets. The offset is first applied to reduce the amortization cost. The remaining offset (if any) will reduce the employer's normal cost. The calculation of the offsets is shown on Exhibit 2(b).

For the Firefighters, the offset for the amortization costs is determined using the combined payroll of Tier I and Tier II. The offset, if any, for the normal cost is determined only using the expected pay from Tier I. In addition, it is assumed that all of the offset will be contributed to Tier I.

The offset for the Firefighter System slightly decreased from 11.75% to 11.71% and the offset for the Judges System decreased from 12.74% to 11.90%. A decrease in the amount of court fees received during 2012 decreased the Judges' offset.

The gross employer contribution rate for both Firefighter funds is larger than the offset, so employers will be required to make contributions. Member contribution rates will remain at last year's rate of 15.05% and 16.71% for Division A and Division B respectively.

The 2004 Legislature enacted legislation which created the Public Safety Retirees' Cost-of-Living Increases Restricted Account (Restricted Account). As a result of this legislation a portion of fire insurance premium tax receipts that would normally have been contributed to the Firefighter System may instead be redirected to this new account. No funds were transferred to this account in calendar year 2012.

3% SUBSTANTIAL SUBSTITUTE

Due to the removal of the state income tax exemption for benefits paid by URS, legislation was passed to provide a 3% retirement benefit increase for URS retirees who were members of URS prior to January 1, 1989. All future retirees who were members of URS prior to January 1, 1989 will be eligible for this benefit as well, as will beneficiaries of eligible members.

The 3% increase applies to all benefits paid to eligible members, including benefits earned after January 1, 1989 and including future cost-of-living increases. However, the 3% increase does not apply to refunds of employee contributions or to the Restoration of Purchasing Power (ROPP) benefits; see the next section.

Due to legislation passed in 1994, this benefit is now pre-funded. The obligation for payment of this benefit belongs to the state, however, not to the employer. Therefore the contribution needed to fund the benefit is determined as an addition to the employer contribution rates required for the State and School Funds in the Public Employees Contributory and Noncontributory Systems, the State of Utah funds in the Public Safety Contributory and Noncontributory Systems, and the Judges System. Contributions are also collected on the payroll of state employees covered under the Tier II systems.

The actuarially determined contribution required to pay for this benefit is 0.71%, 0.14% less than the current contribution rate of 0.85%. Details of the calculation are shown in Exhibit 15(a), while Exhibit 15(b) shows a distribution of the liabilities associated with this benefit.

The Board has the authority, under Section 11-49-301(5), to hold the contribution rate for the Substantial Substitute at 0.85% (last year's rate).

RESTORATION OF PURCHASING POWER (ROPP)

URS provides a special benefit to a closed group of retired members. This benefit was granted by the Board of Trustees, not by the legislature, and hence it does not appear in the statutes governing URS. The Board provided this benefit, called the Restoration of Purchasing Power benefit or ROPP benefit, to retired members during the 1980s, in order to counteract some of the impact of inflation.

The ROPP benefit is a fixed amount that does not increase and is not adjusted for changes in the cost of living. It is provided only to the closed group of members who were retired at the time of the Board's action. Therefore, since the group is closed and since the benefit amount cannot increase, this liability decreases from year to year as the retiree group receiving the ROPP grows older and decreases in size due to mortality.

Exhibit 5(e) shows the liabilities for the ROPP benefits in column 5.

PUBLIC SAFETY RETIREES’ COST-OF-LIVING INCREASES RESTRICTED ACCOUNT

The 2004 Legislature enacted legislation which created a new fund—the Public Safety Retirees’ Cost-of-Living Increases Restricted Account—under the General Fund of the State of Utah, effective July 1, 2004.

The legislation appropriated \$1.1 million from the Fire Academy Support Account. The legislation also required that a portion of the fire insurance premium tax receipts that currently go to the Firefighters System be redirected to this new fund. However, only money above a threshold determined actuarially goes to the Public Safety Retirees’ Cost-of-Living Increases Restricted Account. Information about how much of the fire insurance premium tax receipts should go to the Firefighters Retirement System and how much should go to the Public Safety Retirees’ Cost-of-Living Increases Restricted Account is provided to URS by the actuary in a separate communication.

The 2008 legislature opened a window until December 31, 2012, allowing employers of the Public Safety Systems to elect a 4.0% maximum COLA. Employers that elect the 4.0% maximum COLA will be entitled to a share of the funds held in the Public Safety Retirees’ Cost-of-Living Increases Restricted Account. As of December 31, 2012, the date this election window closed, the market value of this fund was \$6.0 million. As a result, the monies in the restricted account were allocated in proportion to the total actuarial accrued liability of each 4.0% maximum COLA public safety fund. Below is a table documenting the allocation of the restricted account funds to each applicable benefit fund.

**Allocation of the 4.0% Max COLA Restricted Account
at December 31, 2012**

Fund	Allocation %	Allocation Amount
22 – PS State Contrib.	3.77%	\$226,426
42 – PS State Nonctrb.	74.57%	4,478,674
74 – PS Ctrb. Division B 4%	0.58%	34,835
75 – PS Nonctrb. Division A 4%	16.63%	998,798
76 – PS Nonctrb. Division B 4%	2.50%	150,150
77 – PS Ctrb. Division A 4%	1.95%	117,117
Total	100.00%	\$6,006,000

SECTION III
SUPPORTING EXHIBITS

**Comparison of Tier I Prior Year Certified and
Current Year Recommended Contribution Rates**

Fund/Division (1)	Prior Year Valuation Certified Rates for FY 2014			Current Year Valuation Recommended Rates for FY 2015			Increase/ (Decrease) in Total (8)
	Member	Employer	Total	Member	Employer	Total	
	(2)	(3)	(4)	(5)	(6)	(7)	
I. Public Employees Contributory							
A. Local Government	6.00%	13.28%	19.28%	6.00%	14.46%	20.46%	1.18%
B. State and School	6.00%	15.97%	21.97%	6.00%	17.70%	23.70%	1.73%
II. Public Employees Noncontributory							
A. Local Government	0.00%	17.29%	17.29%	0.00%	18.47%	18.47%	1.18%
B. State and School	0.00%	20.46%	20.46%	0.00%	22.19%	22.19%	1.73%
III. Public Safety Contributory							
A. State	12.29%	27.63%	39.92%	12.29%	29.70%	41.99%	2.07%
B. Other Division A (2.5% COLA)	12.29%	20.83%	33.12%	12.29%	22.75%	35.04%	1.92%
C. Other Division A (4% COLA)	12.29%	22.75%	35.04%	12.29%	24.33%	36.62%	1.58%
D. Logan	11.13%	29.76%	40.89%	11.13%	31.80%	42.93%	2.04%
E. Other Division B (2.5% COLA)	10.50%	22.29%	32.79%	10.50%	22.29%	32.79%	0.00%
F. Other Division B (4% COLA)	10.50%	27.49%	37.99%	10.50%	28.95%	39.45%	1.46%
IV. Public Safety Noncontributory							
A. State	0.00%	39.31%	39.31%	0.00%	41.35%	41.35%	2.04%
B. Other Division A (2.5% COLA)	0.00%	32.14%	32.14%	0.00%	34.04%	34.04%	1.90%
C. Other Division A (4% COLA)	0.00%	34.17%	34.17%	0.00%	35.71%	35.71%	1.54%
D. Salt Lake City	0.00%	44.83%	44.83%	0.00%	46.67%	46.67%	1.84%
E. Ogden	0.00%	44.98%	44.98%	0.00%	48.68%	48.68%	3.70%
F. Provo	0.00%	39.97%	39.97%	0.00%	42.16%	42.16%	2.19%
G. Logan	0.00%	39.84%	39.84%	0.00%	41.92%	41.92%	2.08%
H. Bountiful	0.00%	42.79%	42.79%	0.00%	47.33%	47.33%	4.54%
I. Other Division B (2.5% COLA)	0.00%	32.20%	32.20%	0.00%	32.20%	32.20%	0.00%
J. Other Division B (4% COLA)	0.00%	37.45%	37.45%	0.00%	38.94%	38.94%	1.49%
V. Firefighters							
A. Division A							
1. Gross Rate	15.05%	14.71%	29.76%	15.05%	15.53%	30.58%	0.82%
2. Less Estimated Offset	<u>-0.00%</u>	<u>-11.75%</u>	<u>-11.75%</u>	<u>-0.00%</u>	<u>-11.71%</u>	<u>-11.71%</u>	<u>0.04%</u>
3. Net Rate	15.05%	2.96%	18.01%	15.05%	3.82%	18.87%	0.86%
B. Division B							
1. Gross Rate	16.71%	16.21%	32.92%	16.71%	18.30%	35.01%	2.09%
2. Less Estimated Offset	<u>0.00%</u>	<u>-11.75%</u>	<u>-11.75%</u>	<u>0.00%</u>	<u>-11.71%</u>	<u>-11.71%</u>	<u>0.04%</u>
3. Net Rate	16.71%	4.46%	21.17%	16.71%	6.59%	23.30%	2.13%
VI. Judges							
A. Gross Rate	0.00%	48.40%	48.40%	0.00%	51.91%	51.91%	3.51%
B. Less Estimated Offset	<u>-0.00%</u>	<u>-12.74%</u>	<u>-12.74%</u>	<u>-0.00%</u>	<u>-11.90%</u>	<u>-11.90%</u>	<u>0.84%</u>
C. Net Rate	0.00%	35.66%	35.66%	0.00%	40.01%	40.01%	4.35%

Note: Rates reflect 3% Substantial Substitute where applicable

The recommended contribution rate for the Public Employees Retirement Funds for FY 2014 and FY 2015 includes the cost of the 75% of pay active death benefit.

Recommended rates reflect application of U.C. Sec. 49-11-301(5)

**Comparison of Tier II Prior Year Certified and
Current Year Recommended Contribution Rates**

Fund/Division (1)	Prior Year Valuation Certified Rates for FY 2014			Current Year Valuation Recommended Rates for FY 2015			Increase/ (Decrease) in Total (8)
	Member	Employer	Total	Member	Employer	Total	
	(2)	(3)	(4)	(5)	(6)	(7)	
I. Public Employees Contributory							
A. Local Government	0.00%	17.34%	17.34%	0.00%	18.48%	18.48%	1.14%
II. Public Employees Noncontributory							
A. Local Government	0.00%	15.58%	15.58%	0.00%	16.72%	16.72%	1.14%
B. State and School	0.00%	18.34%	18.34%	0.00%	20.05%	20.05%	1.71%
III. Public Safety Contributory							
A. Other Division A (2.5% COLA)	0.00%	21.94%	21.94%	0.00%	23.83%	23.83%	1.89%
B. Other Division A (4% COLA)	0.00%	23.46%	23.46%	0.00%	24.99%	24.99%	1.53%
C. Other Division B (2.5% COLA)	0.00%	21.86%	21.86%	0.00%	21.83%	21.83%	-0.03%
D. Other Division B (4% COLA)	0.00%	26.47%	26.47%	0.00%	28.00%	28.00%	1.53%
IV. Public Safety Noncontributory							
A. State	0.00%	28.49%	28.49%	0.00%	30.54%	30.54%	2.05%
B. Other Division A (2.5% COLA)	0.00%	21.94%	21.94%	0.00%	23.83%	23.83%	1.89%
C. Other Division A (4% COLA)	0.00%	23.46%	23.46%	0.00%	24.99%	24.99%	1.53%
D. Salt Lake City	0.00%	34.36%	34.36%	0.00%	36.25%	36.25%	1.89%
E. Ogden	0.00%	34.56%	34.56%	0.00%	38.35%	38.35%	3.79%
F. Provo	0.00%	29.28%	29.28%	0.00%	31.64%	31.64%	2.36%
G. Logan	0.00%	29.28%	29.28%	0.00%	31.41%	31.41%	2.13%
H. Bountiful	0.00%	32.47%	32.47%	0.00%	36.96%	36.96%	4.49%
I. Other Division B (2.5% COLA)	0.00%	21.60%	21.60%	0.00%	21.72%	21.72%	0.12%
J. Other Division B (4% COLA)	0.00%	26.47%	26.47%	0.00%	28.00%	28.00%	1.53%
V. Firefighters							
A. Division A	0.00%	12.11%	12.11%	0.00%	12.08%	12.08%	-0.03%
B. Division B	0.00%	12.11%	12.11%	0.00%	12.08%	12.08%	-0.03%

Note: Recommended contribution rates include the contribution to the Tier II DC Plan and the Tier I amortization cost

Rates reflect 3% Substantial Substitute where applicable

The contribution rates shown above include the cost of the 75% of pay active death benefit. The cost of the death benefit for public employee funds for FY 2014 and FY 2015 was 0.09% and 0.11%, respectively. Similarly, the cost of the death benefit for public safety and firefighter funds for FY 2014 and FY 2015 was 0.11% and 0.08%, respectively.

Recommended rates reflect application of U.C. Sec. 49-11-301(5)

Development of Recommended Tier I Contribution Rates

Fund/Division (1)	Actuarially Calculated Rates for Current Year* (2)	Certified Rates from Prior Year* (3)	Larger of Columns (2,3)* (4)	Recommended Rates Including 3% Substantial Substitute (5)
I. Public Employees Contributory				
A. Local Government	14.46%	13.19%	14.46%	14.46%
B. State and School	16.85%	15.03%	16.85%	17.70%
II. Public Employees Noncontributory				
A. Local Government	18.47%	17.20%	18.47%	18.47%
B. State and School	21.34%	19.52%	21.34%	22.19%
III. Public Safety Contributory				
A. State	28.85%	26.78%	28.85%	29.70%
B. Other Division A (2.5% COLA)	22.75%	20.83%	22.75%	22.75%
C. Other Division A (4% COLA)	24.33%	22.75%	24.33%	24.33%
D. Logan	31.80%	29.76%	31.80%	31.80%
E. Other Division B (2.5% COLA)	21.30%	22.29%	22.29%	22.29%
F. Other Division B (4% COLA)	28.95%	27.49%	28.95%	28.95%
IV. Public Safety Noncontributory				
A. State	40.50%	38.46%	40.50%	41.35%
B. Other Division A (2.5% COLA)	34.04%	32.14%	34.04%	34.04%
C. Other Division A (4% COLA)	35.71%	34.17%	35.71%	35.71%
D. Salt Lake City	46.67%	44.83%	46.67%	46.67%
E. Ogden	48.68%	44.98%	48.68%	48.68%
F. Provo	42.16%	39.97%	42.16%	42.16%
G. Logan	41.92%	39.84%	41.92%	41.92%
H. Bountiful	47.33%	42.79%	47.33%	47.33%
I. Other Division B (2.5% COLA)	31.32%	32.20%	32.20%	32.20%
J. Other Division B (4% COLA)	38.94%	37.45%	38.94%	38.94%
V. Firefighters				
A. Division A	15.53%	14.71%	15.53%	15.53%
B. Division B	18.30%	16.21%	18.30%	18.30%
VI. Judges	51.06%	47.55%	51.06%	51.91%
VII. 3% Substantial Substitute	0.71%	0.85%	0.85%	N/A

* Rates exclude 3% Substantial Substitute

Note: Rates shown for Firefighters and Judges exclude offsets for fire insurance premium tax and court fees
Rates include the cost of the 75% of pay active death benefit
Rates in Column (4) reflect application of U.C. Sec. 49-11-301(5).

Development of Recommended Tier II Contribution Rates

Fund/Division	Certified Rates from Prior Year*	Actuarially Calculated Rates for Current Year*	Recommended Rate -- Greater of (2) and (3)**	Hybrid Plan DC Rate	Total Tier II Rate	Tier I <i>Certified</i> Amortization %	Total Employer Rate on Behalf of Tier II Members
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
I. Public Employees Contributory							
A. Local Government	8.41%	8.15%	8.22%	1.78%	10.00%	8.37%	18.37%
II. Public Employees Noncontributory							
A. Local Government	8.41%	8.15%	8.22%	1.78%	10.00%	6.61%	16.61%
B. State and School	8.41%	8.15%	8.22%	1.78%	10.00%	9.94%	19.94%
III. Public Safety Contributory							
B. Other Division A (2.5% COLA)	10.91%	10.51%	10.72%	1.28%	12.00%	11.75%	23.75%
C. Other Division A (4% COLA)	10.91%	10.51%	10.72%	1.28%	12.00%	12.91%	24.91%
E. Other Division B (2.5% COLA)	10.91%	10.51%	10.72%	1.28%	12.00%	9.75%	21.75%
F. Other Division B (4% COLA)	10.91%	10.51%	10.72%	1.28%	12.00%	15.92%	27.92%
IV. Public Safety Noncontributory							
A. State	10.91%	10.51%	10.72%	1.28%	12.00%	18.46%	30.46%
B. Other Division A (2.5% COLA)	10.91%	10.51%	10.72%	1.28%	12.00%	11.75%	23.75%
C. Other Division A (4% COLA)	10.91%	10.51%	10.72%	1.28%	12.00%	12.91%	24.91%
D. Salt Lake City	10.91%	10.51%	10.72%	1.28%	12.00%	24.17%	36.17%
E. Ogden	10.91%	10.51%	10.72%	1.28%	12.00%	26.27%	38.27%
F. Provo	10.91%	10.51%	10.72%	1.28%	12.00%	19.56%	31.56%
G. Logan	10.91%	10.51%	10.72%	1.28%	12.00%	19.33%	31.33%
H. Bountiful	10.91%	10.51%	10.72%	1.28%	12.00%	24.88%	36.88%
I. Other Division B (2.5% COLA)	10.91%	10.51%	10.72%	1.28%	12.00%	9.64%	21.64%
J. Other Division B (4% COLA)	10.91%	10.51%	10.72%	1.28%	12.00%	15.92%	27.92%
V. Firefighters							
A. Division A	10.91%	10.51%	10.72%	1.28%	12.00%	0.00%	12.00%
B. Division B	10.91%	10.51%	10.72%	1.28%	12.00%	0.00%	12.00%

* Contribution rate for the Tier II defined benefit plan. Rates shown above have been reduced for the cost of the 75% of pay death benefit provided to active members.

** The recommended contribution rate is equal to the greater of the calculated rate for the current year and the certified rate from the prior year reduced by 0.19% to reflect the change in administration of the LTD benefit protection contracts employers have elected with regard to their Tier II employees.

Note: Tier I certified amortization rates include 3% Substantial Substitute where applicable.

Tier I certified amortization percentage is the difference between the total Tier I rate after reflecting application of U.C. Sec. 49-11-301(5) and the net normal cost.

Rates shown for Firefighters and Judges exclude offsets for fire insurance premium tax and court fees.

Rates in Column (4) reflect application of U.C. Sec. 49-11-301(5), but have been adjusted to reflect the change the application of benefit protection contracts.

Components of Actuarially Calculated Contribution Rates

Fund/Division (1)	Net Normal Cost (2)	Amortization of UAAL (3)	3% Substantial Substitute (4)	Gross Employer Rate (2 + 3 + 4) (5)	Offset (6)	Net Employer Rate ¹ (5 - 6) (7)
I. Public Employees Contributory						
A. Local Government	6.09%	8.37%	0.00%	14.46%	0.00%	14.46%
B. State and School	5.45%	11.40%	0.71%	17.56%	0.00%	17.56%
II. Public Employees Noncontributory						
A. Local Government	11.86%	6.61%	0.00%	18.47%	0.00%	18.47%
B. State and School	12.25%	9.09%	0.71%	22.05%	0.00%	22.05%
III. Public Safety Contributory						
A. State	11.24%	17.61%	0.71%	29.56%	0.00%	29.56%
B. Other Division A (2.5% COLA)	11.00%	11.75%	0.00%	22.75%	0.00%	22.75%
C. Other Division A (4% COLA)	11.42%	12.91%	0.00%	24.33%	0.00%	24.33%
D. Logan	12.47%	19.33%	0.00%	31.80%	0.00%	31.80%
E. Other Division B (2.5% COLA)	12.54%	8.76%	0.00%	21.30%	0.00%	21.30%
F. Other Division B (4% COLA)	13.03%	15.92%	0.00%	28.95%	0.00%	28.95%
IV. Public Safety Noncontributory						
A. State	22.89%	17.61%	0.71%	41.21%	0.00%	41.21%
B. Other Division A (2.5% COLA)	22.29%	11.75%	0.00%	34.04%	0.00%	34.04%
C. Other Division A (4% COLA)	22.80%	12.91%	0.00%	35.71%	0.00%	35.71%
D. Salt Lake City	22.50%	24.17%	0.00%	46.67%	0.00%	46.67%
E. Ogden	22.41%	26.27%	0.00%	48.68%	0.00%	48.68%
F. Provo	22.60%	19.56%	0.00%	42.16%	0.00%	42.16%
G. Logan	22.59%	19.33%	0.00%	41.92%	0.00%	41.92%
H. Bountiful	22.45%	24.88%	0.00%	47.33%	0.00%	47.33%
I. Other Division B (2.5% COLA)	22.56%	8.76%	0.00%	31.32%	0.00%	31.32%
J. Other Division B (4% COLA)	23.02%	15.92%	0.00%	38.94%	0.00%	38.94%
V. Firefighters						
A. Division A	11.62%	3.91%	0.00%	15.53%	11.71%	3.82%
B. Division B	9.80%	8.50%	0.00%	18.30%	11.71%	6.59%
VI. Judges	31.16%	19.90%	0.71%	51.77%	11.90%	39.87%
V. Tier II - Hybrid Plans ²						
A. Public Employees	8.19%	-0.03%	0.00%	8.16%	0.00%	8.16%
B. Public Safety and Firefighter	10.56%	-0.05%	0.00%	10.51%	0.00%	10.51%

¹ The net employer rate may be less than the recommended contribution rates because they do not reflect the Board's policy of maintaining the prior year's rate, if greater, as permitted by U.C. Sec. 49-11-301(5).

² These rates exclude the Tier I amortization payment and the 3% Substantial Substitute. The normal cost excludes the 75% of pay death benefit provided to active members.

Determination of Contribution Rate Offsets for Firefighters and Judges

A. Firefighter's Offset

	<u>2010</u>	<u>2011</u>	<u>2012</u>
1. Calendar year			
2. Annual fire insurance premium receipts	\$ 10,677,000	\$ 12,689,000	\$ 16,057,000
3. 3-year average of premium receipts			13,141,000
4. Expected Tier I amortization payment			8,356,710
5. Payroll (Tier I + Tier II)			113,059,913
6. Amortization payment as % of pay (4. / 5.)			7.39%
7. Remaining available offset (3. - 4.)			4,784,290
8. Tier I payroll			110,740,813
9. Normal cost rate offset (7. / 8.)			4.32%
10. Total offset as % of pay (6. + 9.)			11.71%

B. Judge's Offset

	<u>2010</u>	<u>2011</u>	<u>2012</u>
1. Calendar year			
2. Court fees	\$ 1,944,000	\$ 1,815,000	\$ 1,666,000
3. 3-year average of court fees			\$ 1,808,333
4. Payroll			15,195,125
5. Offset: average of court fees as a percent of payroll			11.90%

Schedule of Funding Progress

Fund/Division (1)	Actuarial Value of Assets (2)	Actuarial Accrued Liability (AAL) (3)	Unfunded AAL (UAAL) (3 - 2) (4)	Funded Ratio (2 / 3) (5)	Covered Payroll (6)	UAAL as a Percentage of Covered Payroll (4 / 6) (7)
I. Public Employees Contributory						
A. Local Government	387,799	458,738	70,939	84.5%	53,195	133.4%
B. State and School	745,634	822,098	76,464	90.7%	42,790	178.7%
C. Subtotal	1,133,433	1,280,836	147,403	88.5%	95,985	153.6%
II. Public Employees Noncontributory						
A. Local Government	3,112,928	3,990,524	877,596	78.0%	842,983	104.1%
B. State and School	13,664,861	17,684,617	4,019,756	77.3%	2,767,965	145.2%
C. Subtotal	16,777,789	21,675,141	4,897,352	77.4%	3,610,948	135.6%
III. Public Safety Contributory						
A. State	52,516	52,990	474	99.1%	177	267.8%
B. Other Division A (2.5% COLA)	128,844	136,878	8,034	94.1%	4,393	182.9%
C. Other Division A (4% COLA)	26,882	27,428	546	98.0%	285	191.6%
D. Logan	12,177	13,458	1,281	90.5%	436	293.8%
E. Other Division B (2.5% COLA)	32,765	33,331	566	98.3%	431	131.3%
F. Other Division B (4% COLA)	7,407	8,218	811	90.1%	345	235.1%
G. Subtotal	260,591	272,303	11,712	95.7%	6,067	193.0%
IV. Public Safety Noncontributory						
A. State	741,829	1,049,038	307,209	70.7%	112,868	272.2%
B. Other Division A (2.5% COLA)	627,026	821,506	194,480	76.3%	106,120	183.3%
C. Other Division A (4% COLA)	171,772	233,938	62,166	73.4%	31,623	196.6%
D. Salt Lake City	192,462	294,025	101,563	65.5%	27,324	371.7%
E. Ogden	45,734	68,315	22,581	66.9%	5,678	397.7%
F. Provo	34,039	49,670	15,631	68.5%	5,160	302.9%
G. Logan	7,734	13,926	6,192	55.5%	2,083	297.3%
H. Bountiful	15,052	21,469	6,417	70.1%	1,703	376.8%
I. Other Division B (2.5% COLA)	162,776	233,808	71,032	69.6%	53,684	132.3%
J. Other Division B (4% COLA)	24,896	35,229	10,333	70.7%	4,380	235.9%
K. Subtotal	2,023,320	2,820,924	797,604	71.7%	350,623	227.5%
V. Firefighters						
A. Division A	127,969	143,398	15,429	89.2%	25,690	60.1%
B. Division B	696,091	801,393	105,302	86.9%	81,805	128.7%
C. Subtotal	824,060	944,791	120,731	87.2%	107,495	112.3%
VI. Judges	131,217	174,923	43,706	75.0%	14,922	292.9%
VII. Governors and Legislative	9,077	11,925	2,848	76.1%	390	730.3%
VIII. 3% Substantial Substitute	191,603	525,755	334,152	36.4%	N/A	N/A
IX. Tier II - Hybrid Plans						
A. Public Employees	17,817	16,755	(1,062)	106.3%	214,448	-0.5%
B. Public Safety and Firefighter	1,161	1,042	(119)	111.5%	13,998	-0.9%
X. Grand Total	21,370,068	27,724,395	6,354,327	77.1%	4,414,876	143.9%

Note: Amounts shown are in \$ thousands

Columns may not add to total due to rounding

Covered Payroll consists of payroll for members in the Tier I and Tier II Hybrid Retirement System

Comparison of Funded Ratios

Fund/Division (1)	Funded Ratios as of January 1		
	2013 (2)	2012 (3)	2011 (4)
I. Public Employees Contributory			
A. Local Government	84.5%	85.8%	87.3%
B. State and School	90.7%	91.5%	92.2%
C. Subtotal	88.5%	89.5%	90.5%
II. Public Employees Noncontributory			
A. Local Government	78.0%	80.2%	83.7%
B. State and School	77.3%	80.1%	83.9%
C. Subtotal	77.4%	80.1%	83.8%
III. Public Safety Contributory			
A. State	99.1%	99.0%	99.0%
B. Other Division A (2.5% COLA)	94.1%	94.9%	95.4%
C. Other Division A (4% COLA)	98.0%	98.3%	98.3%
D. Logan	90.5%	90.8%	90.8%
E. Other Division B (2.5% COLA)	98.3%	98.1%	97.8%
F. Other Division B (4% COLA)	90.1%	90.6%	88.9%
G. Subtotal	95.7%	96.1%	96.3%
IV. Public Safety Noncontributory			
A. State	70.7%	72.5%	75.0%
B. Other Division A (2.5% COLA)	76.3%	77.9%	78.2%
C. Other Division A (4% COLA)	73.4%	73.5%	73.4%
D. Salt Lake City	65.5%	66.9%	69.4%
E. Ogden	66.9%	69.3%	73.1%
F. Provo	68.5%	71.4%	73.3%
G. Logan	55.5%	55.5%	57.6%
H. Bountiful	70.1%	74.1%	79.4%
I. Other Division B (2.5% COLA)	69.6%	68.4%	72.4%
J. Other Division B (4% COLA)	70.7%	70.6%	70.1%
K. Subtotal	71.7%	73.0%	74.9%
V. Firefighters			
A. Division A	89.2%	90.5%	90.2%
B. Division B	86.9%	89.6%	93.4%
C. Subtotal	87.2%	89.7%	92.9%
VI. Judges	75.0%	77.7%	78.7%
VII. Governors and Legislative	76.1%	79.5%	88.6%
VIII. 3% Substantial Substitute	36.4%	36.9%	37.0%
IX. Tier II - Hybrid Plans			
A. Public Employees	106.3%	92.7%	N/A
B. Public Safety and Firefighter	111.5%	88.8%	N/A
X. Grand Total	77.1%	79.5%	82.7%

Analysis of Changes in Calculated Contribution Rates

Fund/Division	Calculated Rate From Jan. 1, 2012 Valuation	Changes in Calculated Rate Due To							Calculated Rate Jan. 1, 2013 Valuation
		Payroll Growth	Investment Return	Liabilities	Allocation of 4% COLA Funds	Benefit Changes	Act. vs Exp. Contributions	Assumption & Methods Change	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
I. Public Employees Contributory									
A. Local Government	13.19%	0.17%	1.11%	-0.24%	0.00%	0.11%	0.12%	0.00%	14.46%
B. State and School	15.71%	0.30%	1.58%	-0.30%	0.00%	0.11%	0.16%	0.00%	17.56%
II. Public Employees Noncontributory									
A. Local Government	17.20%	0.17%	1.11%	-0.24%	0.00%	0.11%	0.12%	0.00%	18.47%
B. State and School	20.20%	0.30%	1.58%	-0.30%	0.00%	0.11%	0.16%	0.00%	22.05%
III. Public Safety Contributory									
A. State	27.46%	0.33%	2.10%	-0.28%	-0.27%	0.00%	0.22%	0.00%	29.56%
B. Other Division A (2.5% COLA)	20.83%	0.61%	1.97%	-0.95%	0.00%	0.00%	0.29%	0.00%	22.75%
C. Other Division A (4% COLA)	22.75%	0.69%	1.80%	-0.94%	-0.23%	0.00%	0.26%	0.00%	24.33%
D. Logan	29.76%	1.11%	2.45%	-1.98%	0.00%	0.00%	0.46%	0.00%	31.80%
E. Other Division B (2.5% COLA)	21.04%	-0.23%	0.82%	-0.33%	0.00%	0.00%	0.00%	0.00%	21.30%
F. Other Division B (4% COLA)	27.49%	0.71%	1.83%	-0.98%	-0.26%	0.00%	0.16%	0.00%	28.95%
IV. Public Safety Noncontributory									
A. State	39.14%	0.33%	2.11%	-0.32%	-0.27%	0.00%	0.22%	0.00%	41.21%
B. Other Division A (2.5% COLA)	32.14%	0.61%	1.97%	-0.97%	0.00%	0.00%	0.29%	0.00%	34.04%
C. Other Division A (4% COLA)	34.17%	0.69%	1.63%	-0.81%	-0.23%	0.00%	0.26%	0.00%	35.71%
D. Salt Lake City	44.83%	0.36%	2.20%	-1.10%	0.00%	0.00%	0.38%	0.00%	46.67%
E. Ogden	44.98%	1.38%	2.84%	-1.04%	0.00%	0.00%	0.52%	0.00%	48.68%
F. Provo	39.97%	-0.36%	2.04%	0.38%	0.00%	0.00%	0.13%	0.00%	42.16%
G. Logan	39.84%	1.11%	2.45%	-1.94%	0.00%	0.00%	0.46%	0.00%	41.92%
H. Bountiful	42.79%	0.78%	3.23%	-0.09%	0.00%	0.00%	0.62%	0.00%	47.33%
I. Other Division B (2.5% COLA)	31.21%	-0.23%	0.82%	-0.48%	0.00%	0.00%	0.00%	0.00%	31.32%
J. Other Division B (4% COLA)	37.45%	0.71%	1.83%	-0.95%	-0.26%	0.00%	0.16%	0.00%	38.94%
V. Firefighters									
A. Division A	14.71%	0.10%	1.21%	-0.40%	0.00%	0.00%	-0.09%	0.00%	15.53%
B. Division B	16.21%	0.17%	2.80%	-0.97%	0.00%	0.00%	0.09%	0.00%	18.30%
VI. Judges	48.23%	0.73%	2.98%	-0.70%	0.00%	0.00%	0.53%	0.00%	51.77%
VII. 3% Substantial Substitute	0.68%	0.03%	0.02%	0.00%	0.00%	0.00%	-0.02%	0.00%	0.71%
VIII. Tier II - Hybrid Plans									
A. Public Employees	8.39%	0.00%	0.00%	-0.02%	0.00%	-0.19%	-0.02%	0.00%	8.16%
B. Public Safety and Firefighter	10.89%	0.00%	0.00%	-0.17%	0.00%	-0.19%	-0.02%	0.00%	10.51%

Notes: Rates shown as of Jan. 1, 2012 do not include any adjustments for 2012 legislation

Rates shown include contribution for 3% Substantial Substitute, if applicable. Rates shown do not include the offsets for court fees or for fire insurance premium taxes.

For paired funds, rates include asset rebalancing at each point of the analysis

Rates for Tier II Hybrid Plans exclude the cost of the 75% of pay active death benefit

Analysis of Change in UAAL

Fund/Division (1)	Changes in Unfunded Actuarial Accrued Liability Due To								Jan. 1, 2013 UAAL (10)
	Jan. 1, 2012 UAAL (2)	Amortization Payments (3)	Liability (Gain)\Loss (4)	Asset (Gain)\Loss (5)	Allocation of 4% COLA Funds (6)	Change in Benefit Provisions (7)	Change in Assumptions or Methods (8)	Other Asset Transfers (9)	
I. Public Employees Contributory									
A. Local Government	63,756	1,339	(6,616)	19,877	0	415	0	(7,833)	70,939
B. State and School	70,035	1,644	(9,245)	44,439	0	306	0	(30,715)	76,464
C. Subtotal	133,791	2,983	(15,861)	64,316	0	721	0	(38,548)	147,403
II. Public Employees Noncontributory									
A. Local Government	748,522	22,997	(44,029)	136,211	0	6,063	0	7,833	877,596
B. State and School	3,379,274	102,527	(166,825)	657,005	0	17,060	0	30,715	4,019,756
C. Subtotal	4,127,796	125,524	(210,854)	793,216	0	23,123	0	38,548	4,897,352
III. Public Safety Contributory									
A. State	545	27	675	3,858	(226)	0	0	(4,406)	474
B. Other Division A (2.5% COLA)	7,054	240	(1,577)	9,845	0	0	0	(7,528)	8,034
C. Other Division A (4% COLA)	485	9	(1,153)	3,193	(117)	0	0	(1,870)	546
D. Logan	1,257	43	(490)	711	0	0	0	(240)	1,281
E. Other Division B (2.5% COLA)	630	(4)	(102)	2,138	0	0	0	(2,096)	566
F. Other Division B (4% COLA)	751	19	(28)	326	(35)	0	0	(222)	811
G. Subtotal	10,722	334	(2,675)	20,071	(378)	0	0	(16,362)	11,712
IV. Public Safety Noncontributory									
A. State	273,522	6,280	(5,093)	32,573	(4,479)	0	0	4,406	307,209
B. Other Division A (2.5% COLA)	173,516	6,233	(16,978)	24,181	0	0	0	7,528	194,480
C. Other Division A (4% COLA)	58,155	1,721	(3,293)	4,713	(999)	0	0	1,870	62,166
D. Salt Lake City	94,679	2,219	(4,585)	9,251	0	0	0	0	101,563
E. Ogden	20,447	582	(891)	2,443	0	0	0	0	22,581
F. Provo	13,382	205	414	1,630	0	0	0	0	15,631
G. Logan	5,818	188	(290)	236	0	0	0	240	6,192
H. Bountiful	5,428	199	(43)	833	0	0	0	0	6,417
I. Other Division B (2.5% COLA)	66,267	585	(2,464)	4,547	0	0	0	2,096	71,032
J. Other Division B (4% COLA)	9,802	174	(675)	959	(150)	0	0	222	10,333
K. Subtotal	721,016	18,386	(33,898)	81,366	(5,628)	0	0	16,362	797,604
V. Firefighters									
A. Division A	12,518	(132)	(1,735)	4,778	0	0	0	0	15,429
B. Division B	80,117	1,955	(11,516)	34,747	0	0	0	0	105,302
C. Subtotal	92,635	1,823	(13,251)	39,525	0	0	0	0	120,731
VI. Judges	37,421	1,514	(1,717)	6,488	0	0	0	0	43,706
VII. Governors and Legislative	2,464	99	(315)	600	0	0	0	0	2,848
VIII. 3% Substantial Substitute	327,095	(4,529)	1,993	9,593	0	0	0	0	334,152
IX. Tier II - Hybrid Plans									
A. Public Employees	222	(12)	(1,128)	(25)	0	(119)	0	0	(1,062)
B. Public Safety and Firefighter	11	(1)	(120)	(3)	0	(7)	0	0	(119)
X. Grand Total	5,453,172	146,122	(277,825)	1,015,147	(6,006)	23,718	0	0	6,354,326

Note: Amounts shown are in \$ thousands
Columns may not add to total due to rounding

**Actuarial Present Value of Future Benefits
by Fund and Status**

Fund/Division (1)	Retirees and Beneficiaries (2)	Inactive Members (3)	Active Members (4)	Total (5)
I. Public Employees Contributory				
A. Local Government	208,399	39,747	254,333	502,479
B. State and School	461,345	64,039	314,091	839,476
C. Subtotal	669,744	103,786	568,424	1,341,955
II. Public Employees Noncontributory				
A. Local Government	1,540,168	304,232	2,988,690	4,833,090
B. State and School	8,535,564	835,518	11,118,604	20,489,686
C. Subtotal	10,075,732	1,139,750	14,107,294	25,322,776
III. Public Safety Contributory				
A. State	50,699	824	1,585	53,108
B. Other Division A (2.5% COLA)	107,174	13,658	24,665	145,498
C. Other Division A (4% COLA)	25,200	643	1,996	27,838
D. Logan	10,461	397	3,182	14,040
E. Other Division B (2.5% COLA)	28,056	2,255	3,377	33,688
F. Other Division B (4% COLA)	5,973	380	2,346	8,699
G. Subtotal	227,563	18,157	37,151	282,871
IV. Public Safety Noncontributory				
A. State	552,798	30,927	665,171	1,248,895
B. Other Division A (2.5% COLA)	357,448	85,689	586,120	1,029,256
C. Other Division A (4% COLA)	95,730	11,336	187,595	294,661
D. Salt Lake City	172,952	5,501	163,698	342,151
E. Ogden	47,022	1,255	31,331	79,608
F. Provo	27,896	1,482	29,959	59,337
G. Logan	5,147	596	12,178	17,921
H. Bountiful	15,347	288	9,218	24,852
I. Other Division B (2.5% COLA)	78,668	10,200	245,375	334,243
J. Other Division B (4% COLA)	15,557	1,683	26,198	43,439
K. Subtotal	1,368,565	148,957	1,956,843	3,474,363
V. Firefighters				
A. Division A	58,533	7,228	157,863	223,624
B. Division B	473,833	5,864	551,333	1,031,030
C. Subtotal	532,366	13,092	709,196	1,254,654
VI. Judges	98,499	2,702	103,655	204,856
VII. Governors and Legislative	6,396	3,757	2,149	12,302
VIII. Tier II - Hybrid Plans				
A. Public Employees	0	0	229,655	229,655
B. Public Safety and Firefighter	0	0	26,716	26,716
IX. Grand Total	12,978,865	1,430,201	17,741,083	32,150,148

Notes: Amounts shown are in \$ thousands
Columns may not add to total due to rounding

**Actuarial Present Value of Future Benefits
Details for Retirees and Beneficiaries, by Status**

Fund/Division (1)	Retired Members (2)	Disabled Members (3)	Beneficiaries (4)	Total (5)
I. Public Employees Contributory				
A. Local Government	182,247	6,814	19,337	208,399
B. State and School	404,304	16,978	40,064	461,345
C. Subtotal	586,551	23,792	59,401	669,744
II. Public Employees Noncontributory				
A. Local Government	1,398,639	32,875	108,654	1,540,168
B. State and School	7,959,791	121,448	454,325	8,535,564
C. Subtotal	9,358,430	154,323	562,979	10,075,732
III. Public Safety Contributory				
A. State	34,105	2,173	14,421	50,699
B. Other Division A (2.5% COLA)	92,386	1,545	13,244	107,174
C. Other Division A (4% COLA)	19,846	231	5,123	25,200
D. Logan	10,317	110	33	10,461
E. Other Division B (2.5% COLA)	26,720	740	595	28,056
F. Other Division B (4% COLA)	5,260	0	713	5,973
G. Subtotal	188,634	4,799	34,129	227,563
IV. Public Safety Noncontributory				
A. State	520,709	7,077	25,012	552,798
B. Other Division A (2.5% COLA)	330,874	4,697	21,877	357,448
C. Other Division A (4% COLA)	91,111	562	4,057	95,730
D. Salt Lake City	154,206	3,552	15,194	172,952
E. Ogden	41,551	503	4,968	47,022
F. Provo	25,335	0	2,561	27,896
G. Logan	4,842	0	305	5,147
H. Bountiful	14,592	369	386	15,347
I. Other Division B (2.5% COLA)	72,246	1,550	4,872	78,668
J. Other Division B (4% COLA)	14,934	0	624	15,557
K. Subtotal	1,270,400	18,310	79,856	1,368,565
V. Firefighters				
A. Division A	47,049	6,824	4,660	58,533
B. Division B	403,670	21,300	48,863	473,833
C. Subtotal	450,719	28,124	53,523	532,366
VI. Judges	89,186	0	9,313	98,499
VII. Governors and Legislative	5,416	0	979	6,396
VIII. Tier II - Hybrid Plans				
A. Public Employees	0	0	0	0
B. Public Safety and Firefighter	0	0	0	0
IX. Grand Total	11,949,336	229,348	800,180	12,978,865

Notes: Amounts shown are in \$ thousands
Columns may not add to total due to rounding

**Actuarial Present Value of Future Benefits
Details for Inactive Members, by Status**

Fund/Division (1)	Disabled (2)	Other Vested (3)	Nonvested (4)	Total (5)
I. Public Employees Contributory				
A. Local Government	3,204	34,346	2,197	39,747
B. State and School	4,589	59,416	34	64,039
C. Subtotal	7,793	93,762	2,231	103,786
II. Public Employees Noncontributory				
A. Local Government	32,730	270,397	1,104	304,232
B. State and School	99,900	730,992	4,626	835,518
C. Subtotal	132,630	1,001,389	5,730	1,139,750
III. Public Safety Contributory				
A. State	0	814	10	824
B. Other Division A (2.5% COLA)	0	13,307	352	13,658
C. Other Division A (4% COLA)	0	633	10	643
D. Logan	0	397	0	397
E. Other Division B (2.5% COLA)	0	2,142	113	2,255
F. Other Division B (4% COLA)	0	380	0	380
G. Subtotal	0	17,673	485	18,157
IV. Public Safety Noncontributory				
A. State	2,015	28,901	10	30,927
B. Other Division A (2.5% COLA)	1,988	83,669	33	85,689
C. Other Division A (4% COLA)	1,080	10,256	0	11,336
D. Salt Lake City	322	5,178	1	5,501
E. Ogden	0	1,255	0	1,255
F. Provo	0	1,470	11	1,482
G. Logan	0	596	0	596
H. Bountiful	0	288	0	288
I. Other Division B (2.5% COLA)	1,303	8,878	19	10,200
J. Other Division B (4% COLA)	0	1,683	0	1,683
K. Subtotal	6,708	142,174	74	148,957
V. Firefighters				
A. Division A	0	6,880	347	7,228
B. Division B	0	5,634	230	5,864
C. Subtotal	0	12,514	577	13,092
VI. Judges	0	2,702	0	2,702
VII. Governors and Legislative	0	3,753	4	3,757
VIII. Tier II - Hybrid Plans				
A. Public Employees	0	0	0	0
B. Public Safety and Firefighter	0	0	0	0
IX. Grand Total	147,131	1,273,967	9,101	1,430,201

Notes: Amounts shown are in \$ thousands
Columns may not add to total due to rounding

**Actuarial Present Value of Future Benefits
Details for Active Members, by Benefit**

Fund/Division (1)	Retirement (2)	Deferred		Refunds (5)	Death (6)	Total (7)
		Termination (3)	Disability (4)			
I. Public Employees Contributory						
A. Local Government	238,393	4,045	4,021	2,293	5,581	254,333
B. State and School	308,622	0	799	0	4,671	314,091
C. Subtotal	547,015	4,045	4,820	2,293	10,252	568,424
II. Public Employees Noncontributory						
A. Local Government	2,649,907	161,962	96,707	0	80,115	2,988,690
B. State and School	10,237,311	423,937	233,009	0	224,347	11,118,604
C. Subtotal	12,887,218	585,899	329,716	0	304,462	14,107,294
III. Public Safety Contributory						
A. State	1,576	0	0	0	9	1,585
B. Other Division A (2.5% COLA)	23,463	334	300	357	211	24,665
C. Other Division A (4% COLA)	1,937	17	15	9	17	1,996
D. Logan	3,136	12	11	5	19	3,182
E. Other Division B (2.5% COLA)	3,342	5	4	1	26	3,377
F. Other Division B (4% COLA)	2,282	18	18	6	23	2,346
G. Subtotal	35,736	386	348	378	305	37,151
IV. Public Safety Noncontributory						
A. State	637,254	13,596	7,863	0	6,457	665,171
B. Other Division A (2.5% COLA)	556,844	15,002	8,389	0	5,885	586,120
C. Other Division A (4% COLA)	179,290	4,118	2,401	0	1,786	187,595
D. Salt Lake City	157,277	2,966	1,708	0	1,747	163,698
E. Ogden	29,827	726	415	0	364	31,331
F. Provo	28,606	641	366	0	346	29,959
G. Logan	11,715	221	121	0	121	12,178
H. Bountiful	8,718	258	140	0	102	9,218
I. Other Division B (2.5% COLA)	232,257	5,857	3,605	0	3,656	245,375
J. Other Division B (4% COLA)	25,087	526	295	0	290	26,198
K. Subtotal	1,866,875	43,911	25,303	0	20,754	1,956,843
V. Firefighters						
A. Division A	147,442	1,072	6,226	969	2,154	157,863
B. Division B	522,932	2,674	14,417	2,192	9,119	551,333
C. Subtotal	670,374	3,746	20,643	3,161	11,273	709,196
VI. Judges	101,686	0	0	0	1,969	103,655
VII. Governors and Legislative	1,569	563	0	0	17	2,149
VIII. Tier II - Hybrid Plans						
A. Public Employees	186,068	28,488	6,703	0	8,396	229,655
B. Public Safety and Firefighter	23,685	1,212	827	0	992	26,716
IX. Grand Total	16,320,226	668,250	388,360	5,832	358,420	17,741,083

Notes: Amounts shown are in \$ thousands
Columns may not add to total due to rounding

**Actuarial Present Value of Future Benefits
Details for Members Receiving Benefits, by Benefit**

Fund/Division	Basic Benefit	COLA	Subtotal (2) + (3)	ROPP	Total (4) + (5)
(1)	(2)	(3)	(4)	(5)	(6)
I. Public Employees Contributory					
A. Local Government	148,723	59,557	208,280	120	208,399
B. State and School	322,214	138,629	460,843	502	461,345
C. Subtotal	<u>470,937</u>	<u>198,186</u>	<u>669,123</u>	622	669,744
II. Public Employees Noncontributory					
A. Local Government	1,097,281	442,887	1,540,168	0	1,540,168
B. State and School	5,999,475	2,536,089	8,535,564	0	8,535,564
C. Subtotal	<u>7,096,756</u>	<u>2,978,976</u>	<u>10,075,732</u>	0	10,075,732
III. Public Safety Contributory					
A. State	27,577	21,994	49,571	1,128	50,699
B. Other Division A (2.5% COLA)	69,879	36,850	106,729	446	107,174
C. Other Division A (4% COLA)	14,513	10,439	24,952	248	25,200
D. Logan	6,956	3,501	10,457	4	10,461
E. Other Division B (2.5% COLA)	19,403	8,651	28,054	2	28,056
F. Other Division B (4% COLA)	3,918	2,055	5,973	0	5,973
G. Subtotal	<u>142,246</u>	<u>83,490</u>	<u>225,736</u>	1,828	227,563
IV. Public Safety Noncontributory					
A. State	379,573	173,221	552,794	4	552,798
B. Other Division A (2.5% COLA)	253,235	104,213	357,448	0	357,448
C. Other Division A (4% COLA)	66,552	29,178	95,730	0	95,730
D. Salt Lake City	114,325	58,329	172,654	298	172,952
E. Ogden	31,457	15,520	46,977	44	47,022
F. Provo	18,971	8,882	27,853	43	27,896
G. Logan	3,785	1,362	5,147	0	5,147
H. Bountiful	10,893	4,447	15,340	6	15,347
I. Other Division B (2.5% COLA)	56,645	22,023	78,668	0	78,668
J. Other Division B (4% COLA)	11,065	4,492	15,557	0	15,557
K. Subtotal	<u>946,501</u>	<u>421,667</u>	<u>1,368,168</u>	395	1,368,565
V. Firefighters					
A. Division A	40,368	18,038	58,406	128	58,533
B. Division B	311,331	160,682	472,013	1,820	473,833
C. Subtotal	<u>351,699</u>	<u>178,720</u>	<u>530,419</u>	1,948	532,366
VI. Judges					
	65,617	32,882	98,499	0	98,499
VII. Governors and Legislative					
	4,054	1,751	5,805	591	6,396
VIII. Tier II - Hybrid Plans					
A. Public Employees	0	0	0	0	0
B. Public Safety and Firefighter	0	0	0	0	0
VIII. Grand Total	9,077,810	3,895,672	12,973,482	5,384	12,978,865

Notes: Amounts shown are in \$ thousands
Columns may not add to total due to rounding

Normal Cost

Fund/Division (1)	Retirement (2)	Deferred Termination (3)	Disability (4)	Refunds (5)	Death (6)	Total (7)
I. Public Employees Contributory						
A. Local Government	8.90%	0.87%	0.64%	1.32%	0.36%	12.09%
B. State and School	8.58%	0.60%	0.43%	1.56%	0.28%	11.45%
II. Public Employees Noncontributory						
A. Local Government	8.98%	1.81%	0.70%	0.00%	0.37%	11.86%
B. State and School	9.82%	1.62%	0.51%	0.00%	0.30%	12.25%
III. Public Safety Contributory						
A. State	20.02%	0.80%	0.84%	1.56%	0.31%	23.53%
B. Other Division A (2.5% COLA)	20.10%	0.67%	0.67%	1.57%	0.28%	23.29%
C. Other Division A (4% COLA)	20.32%	0.78%	0.75%	1.55%	0.31%	23.71%
D. Logan	20.91%	0.49%	0.46%	1.41%	0.33%	23.60%
E. Other Division B (2.5% COLA)	19.41%	0.88%	0.85%	1.35%	0.55%	23.04%
F. Other Division B (4% COLA)	20.23%	0.74%	0.74%	1.35%	0.47%	23.53%
IV. Public Safety Noncontributory						
A. State	20.36%	1.41%	0.79%	0.00%	0.33%	22.89%
B. Other Division A (2.5% COLA)	20.01%	1.28%	0.70%	0.00%	0.30%	22.29%
C. Other Division A (4% COLA)	20.53%	1.26%	0.71%	0.00%	0.30%	22.80%
D. Salt Lake City	20.17%	1.21%	0.68%	0.00%	0.44%	22.50%
E. Ogden	20.13%	1.19%	0.66%	0.00%	0.43%	22.41%
F. Provo	20.12%	1.27%	0.73%	0.00%	0.48%	22.60%
G. Logan	20.50%	1.09%	0.60%	0.00%	0.40%	22.59%
H. Bountiful	19.98%	1.40%	0.75%	0.00%	0.32%	22.45%
I. Other Division B (2.5% COLA)	20.02%	1.31%	0.75%	0.00%	0.48%	22.56%
J. Other Division B (4% COLA)	20.63%	1.24%	0.70%	0.00%	0.45%	23.02%
V. Firefighters						
A. Division A	23.39%	0.32%	1.92%	0.60%	0.44%	26.67%
B. Division B	23.38%	0.28%	1.62%	0.64%	0.59%	26.51%
VI. Judges	30.08%	0.00%	0.00%	0.00%	1.08%	31.16%
VII. Tier II - Hybrid Plans						
A. Public Employees	6.62%	1.13%	0.25%	0.00%	0.19%	8.19%
B. Public Safety and Firefighter	9.39%	0.52%	0.33%	0.00%	0.32%	10.56%

Note: Columns may not add to total due to rounding.

The normal cost for the Tier II Hybrid Plans does not include the cost of the 75% of pay death benefit provided to active members.

Net Employer Normal Cost

Fund/Division (1)	Total Normal Cost (2)	Member Rate (3)	Net Employer Normal Cost (2) - (3) (4)
I. Public Employees Contributory			
A. Local Government	12.09%	6.00%	6.09%
B. State and School	11.45%	6.00%	5.45%
II. Public Employees Noncontributory			
A. Local Government	11.86%	0.00%	11.86%
B. State and School	12.25%	0.00%	12.25%
III. Public Safety Contributory			
A. State	23.53%	12.29%	11.24%
B. Other Division A (2.5% COLA)	23.29%	12.29%	11.00%
C. Other Division A (4% COLA)	23.71%	12.29%	11.42%
D. Logan	23.60%	11.13%	12.47%
E. Other Division B (2.5% COLA)	23.04%	10.50%	12.54%
F. Other Division B (4% COLA)	23.53%	10.50%	13.03%
IV. Public Safety Noncontributory			
A. State	22.89%	0.00%	22.89%
B. Other Division A (2.5% COLA)	22.29%	0.00%	22.29%
C. Other Division A (4% COLA)	22.80%	0.00%	22.80%
D. Salt Lake City	22.50%	0.00%	22.50%
E. Ogden	22.41%	0.00%	22.41%
F. Provo	22.60%	0.00%	22.60%
G. Logan	22.59%	0.00%	22.59%
H. Bountiful	22.45%	0.00%	22.45%
I. Other Division B (2.5% COLA)	22.56%	0.00%	22.56%
J. Other Division B (4% COLA)	23.02%	0.00%	23.02%
V. Firefighters			
A. Division A	26.67%	15.05%	11.62%
B. Division B	26.51%	16.71%	9.80%
VI. Judges	31.16%	0.00%	31.16%
VII. Tier II - Hybrid Plans			
A. Public Employees	8.19%	0.00%	8.19%
B. Public Safety and Firefighter	10.56%	0.00%	10.56%

Determination of Actuarial Accrued Liability

Fund/Division (1)	Actuarial Present Value of Future Benefits (2)	Actuarial Present Value of Future Normal Costs			Actuarial Accrued Liability (2) - (5) (6)
		Members (3)	Employers (4)	Total (5)	
I. Public Employees Contributory					
A. Local Government	502,479	21,708	22,033	43,741	458,738
B. State and School	839,476	9,106	8,272	17,378	822,098
C. Subtotal	1,341,955	30,814	30,305	61,119	1,280,836
II. Public Employees Noncontributory					
A. Local Government	4,833,090	0	842,565	842,565	3,990,524
B. State and School	20,489,686	0	2,805,070	2,805,070	17,684,617
C. Subtotal	25,322,776	0	3,647,635	3,647,635	21,675,141
III. Public Safety Contributory					
A. State	53,108	62	56	118	52,990
B. Other Division A (2.5% COLA)	145,498	4,549	4,071	8,620	136,878
C. Other Division A (4% COLA)	27,838	213	197	410	27,428
D. Logan	14,040	274	307	581	13,458
E. Other Division B (2.5% COLA)	33,688	163	195	358	33,331
F. Other Division B (4% COLA)	8,699	215	266	481	8,218
G. Subtotal	282,871	5,476	5,092	10,568	272,303
IV. Public Safety Noncontributory					
A. State	1,248,895	0	199,857	199,857	1,049,038
B. Other Division A (2.5% COLA)	1,029,256	0	207,750	207,750	821,506
C. Other Division A (4% COLA)	294,661	0	60,723	60,723	233,938
D. Salt Lake City	342,151	0	48,126	48,126	294,025
E. Ogden	79,608	0	11,293	11,293	68,315
F. Provo	59,337	0	9,667	9,667	49,670
G. Logan	17,921	0	3,995	3,995	13,926
H. Bountiful	24,852	0	3,384	3,384	21,469
I. Other Division B (2.5% COLA)	334,243	0	100,436	100,436	233,808
J. Other Division B (4% COLA)	43,439	0	8,210	8,210	35,229
K. Subtotal	3,474,363	0	653,441	653,441	2,820,924
V. Firefighters					
A. Division A	223,624	45,272	34,954	80,226	143,398
B. Division B	1,031,030	144,746	84,890	229,636	801,393
C. Subtotal	1,254,654	190,018	119,844	309,862	944,791
VI. Judges	204,856	0	29,932	29,932	174,923
VII. Governors and Legislative	12,302	0	377	377	11,925
VIII. Tier II - Hybrid Plans					
A. Public Employees	229,655	0	212,900	212,900	16,755
B. Public Safety and Firefighter	26,716	0	25,674	25,674	1,042
IX. Grand Total	32,150,148	226,308	4,725,200	4,951,508	27,198,640

Notes: Amounts shown are in \$ thousands
Columns may not add to total due to rounding

**Actuarial Accrued Liability
Details of Member and Employer Financing**

Fund/Division	Inactive Members			Active Members		
	Accumulated Member Contributions	Employer Financed	Total	Accumulated Member Contributions	Employer Financed	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)
I. Public Employees Contributory						
A. Local Government	32,411	7,336	39,747	86,493	124,099	210,592
B. State and School	53,130	10,909	64,039	122,283	174,431	296,714
C. Subtotal	85,541	18,245	103,786	208,776	298,530	507,306
II. Public Employees Noncontributory						
A. Local Government	33,255	270,977	304,232	86,641	2,059,484	2,146,125
B. State and School	82,279	753,239	835,518	296,400	8,017,134	8,313,534
C. Subtotal	115,534	1,024,216	1,139,750	383,041	10,076,618	10,459,659
III. Public Safety Contributory						
A. State	587	237	824	693	774	1,467
B. Other Division A (2.5% COLA	9,077	4,581	13,658	7,097	8,948	16,045
C. Other Division A (4% COLA)	595	48	643	705	880	1,585
D. Logan	384	13	397	970	1,630	2,600
E. Other Division B (2.5% COLA)	1,805	450	2,255	1,297	1,722	3,019
F. Other Division B (4% COLA)	268	112	380	739	1,126	1,865
G. Subtotal	12,716	5,441	18,157	11,501	15,080	26,581
IV. Public Safety Noncontributory						
A. State	1,142	29,785	30,927	3,873	461,441	465,314
B. Other Division A (2.5% COLA	6,873	78,816	85,689	11,275	367,095	378,370
C. Other Division A (4% COLA)	930	10,406	11,336	2,174	124,698	126,872
D. Salt Lake City	216	5,285	5,501	1,826	113,746	115,572
E. Ogden	106	1,149	1,255	479	19,559	20,038
F. Provo	1,277	205	1,482	6,461	13,831	20,292
G. Logan	339	257	596	1,874	6,309	8,183
H. Bountiful	0	288	288	55	5,779	5,834
I. Other Division B (2.5% COLA)	1,557	8,643	10,200	7,834	137,105	144,939
J. Other Division B (4% COLA)	651	1,032	1,683	1,502	16,486	17,988
K. Subtotal	13,091	135,866	148,957	37,353	1,266,049	1,303,402
V. Firefighters						
A. Division A	4,406	2,822	7,228	25,052	52,585	77,637
B. Division B	3,316	2,548	5,864	94,668	227,029	321,697
C. Subtotal	7,722	5,370	13,092	119,720	279,614	399,334
VI. Judges	649	2,053	2,702	3,453	70,270	73,723
VII. Governors and Legislative	101	3,656	3,757	3	1,769	1,772
VIII. Tier II - Hybrid Plans						
A. Public Employees	0	0	0	0	16,755	16,755
B. Public Safety and Firefighter	0	0	0	0	1,042	1,042
IX. Grand Total	235,354	1,194,847	1,430,201	763,847	12,025,727	12,789,574

Notes: Amounts shown are in \$ thousands
Columns may not add to total due to rounding

Number of Members

Fund/Division (1)	Active (2)	Inactive Members			Members Receiving Benefits			Total (9)
		Disabled (3)	Vested (4)	Nonvested (5)	Regular Retirees (6)	Disabled Retirees (7)	Beneficiaries (8)	
I. Public Employees Contributory								
A. Local Government	1,081	14	880	738	948	52	235	3,948
B. State and School	810	21	642	11	2,545	138	655	4,822
C. Subtotal	1,891	35	1,522	749	3,493	190	890	8,770
II. Public Employees Noncontributory								
A. Local Government	17,554	229	11,445	343	6,104	196	733	36,604
B. State and School	63,283	692	31,033	913	30,399	749	2,778	129,847
C. Subtotal	80,837	921	42,478	1,256	36,503	945	3,511	166,451
III. Public Safety Contributory								
A. State	3	0	11	9	148	13	140	324
B. Other Division A (2.5% COLA)	90	0	210	53	288	7	118	766
C. Other Division A (4% COLA)	6	0	24	3	93	1	50	177
D. Logan	8	0	6	0	27	1	1	43
E. Other Division B (2.5% COLA)	7	0	52	14	62	4	8	147
F. Other Division B (4% COLA)	6	0	4	0	23	0	6	39
G. Subtotal	120	0	307	79	641	26	323	1,496
IV. Public Safety Noncontributory								
A. State	2,354	9	1,273	1	1,256	28	146	5,067
B. Other Division A (2.5% COLA)	2,255	10	1,680	3	790	20	101	4,859
C. Other Division A (4% COLA)	669	4	332	0	217	2	22	1,246
D. Salt Lake City	450	1	142	1	362	15	101	1,072
E. Ogden	122	0	70	0	111	2	40	345
F. Provo	92	0	29	2	58	0	15	196
G. Logan	47	0	15	0	9	0	1	72
H. Bountiful	33	0	7	0	34	1	3	78
I. Other Division B (2.5% COLA)	1,030	7	265	3	159	5	22	1,491
J. Other Division B (4% COLA)	77	0	23	0	27	0	3	130
K. Subtotal	7,129	31	3,836	10	3,023	73	454	14,556
V. Firefighters								
A. Division A	491	0	186	48	102	20	25	872
B. Division B	1,383	0	138	91	802	67	246	2,727
C. Subtotal	1,874	0	324	139	904	87	271	3,599
VI. Judges	111	0	4	0	85	0	34	234
VII. Governors and Legislative	74	0	123	2	153	0	71	423
VIII. Tier II - Hybrid Plans								
A. Public Employees	9,510	0	0	0	0	0	0	9,510
B. Public Safety and Firefighter	439	0	0	0	0	0	0	439
IX. Grand Total	101,985	987	48,594	2,235	44,802	1,321	5,554	205,478

Active Membership Statistics

Fund/Division (1)	Number (2)	Total Compensation \$ Thousands (3)	Average Compensation (\$'s) (4)	Accumulated Member Contributions With Interest \$ Thousands (5)	Average Age (6)	Average Service (7)
I. Public Employees Contributory						
A. Local Government	1,081	53,195	49,209	86,493	50.4	16.3
B. State and School	810	42,790	52,827	122,283	57.7	29.9
C. Subtotal	1,891	95,985	50,759	208,776	53.5	22.1
II. Public Employees Noncontributory						
A. Local Government	17,554	842,983	48,022	86,641	46.6	11.5
B. State and School	63,283	2,767,965	43,739	296,400	47.3	12.5
C. Subtotal	80,837	3,610,948	44,669	383,041	47.1	12.3
III. Public Safety Contributory						
A. State	3	177	58,892	693	57.3	27.0
B. Other Division A (2.5% COLA)	90	4,393	48,809	7,097	40.0	10.6
C. Other Division A (4% COLA)	6	285	47,475	705	47.0	16.3
D. Logan	8	436	54,440	970	41.4	16.9
E. Other Division B (2.5% COLA)	7	431	61,636	1,297	53.1	21.9
F. Other Division B (4% COLA)	6	345	57,423	739	46.2	16.0
G. Subtotal	120	6,067	50,549	11,501	42.0	12.6
IV. Public Safety Noncontributory						
A. State	2,354	112,868	47,947	3,873	42.0	11.6
B. Other Division A (2.5% COLA)	2,255	106,120	47,060	11,275	39.4	10.2
C. Other Division A (4% COLA)	669	31,623	47,269	2,174	39.6	11.3
D. Salt Lake City	450	27,324	60,719	1,826	40.8	12.0
E. Ogden	122	5,678	46,543	479	38.2	9.9
F. Provo	92	5,160	56,089	6,461	40.2	11.2
G. Logan	47	2,083	44,322	1,874	37.5	10.3
H. Bountiful	33	1,703	51,610	55	40.0	9.5
I. Other Division B (2.5% COLA)	1,030	53,684	52,121	7,834	40.6	7.1
J. Other Division B (4% COLA)	77	4,380	56,886	1,502	40.4	11.3
K. Subtotal	7,129	350,623	49,183	37,353	40.5	10.4
V. Firefighters						
A. Division A	491	25,690	52,321	25,052	40.0	9.0
B. Division B	1,383	81,805	59,150	94,668	40.9	12.1
C. Subtotal	1,874	107,495	57,361	119,720	40.7	11.3
VI. Judges	111	14,922	134,432	3,453	57.5	10.7
VII. Governors and Legislative	74	390	5,265	3	54.0	6.6
VIII. Tier II - Hybrid Plans						
A. Public Employees	9,510	269,287	28,316	0	34.0	0.7
B. Public Safety and Firefighter	439	16,152	36,793	0	29.6	0.6
IX. Grand Total	101,985	4,471,869	43,848	763,847	46.7	12.3

Retired Member Statistics
(Including Disabled Retirees and Beneficiaries)

Fund/Division (1)	Number (2)	Annual Total Benefits (\$ Thousands) (3)	Average Monthly Benefit (\$s) (4)
I. Public Employees Contributory			
A. Local Government	1,235	19,391	1,308
B. State and School	3,338	48,664	1,215
C. Subtotal	4,573	68,055	1,240
II. Public Employees Noncontributory			
A. Local Government	7,033	134,830	1,598
B. State and School	33,926	757,780	1,861
C. Subtotal	40,959	892,610	1,816
III. Public Safety Contributory			
A. State	301	6,200	1,717
B. Other Division A (2.5% COLA)	413	9,346	1,886
C. Other Division A (4% COLA)	144	2,598	1,503
D. Logan	29	849	2,439
E. Other Division B (2.5% COLA)	74	1,998	2,250
F. Other Division B (4% COLA)	29	457	1,313
G. Subtotal	990	21,448	1,805
IV. Public Safety Noncontributory			
A. State	1,430	42,154	2,457
B. Other Division A (2.5% COLA)	911	26,783	2,450
C. Other Division A (4% COLA)	241	6,767	2,340
D. Salt Lake City	478	14,532	2,533
E. Ogden	153	3,784	2,061
F. Provo	73	2,279	2,602
G. Logan	10	335	2,795
H. Bountiful	38	1,162	2,548
I. Other Division B (2.5% COLA)	186	5,495	2,462
J. Other Division B (4% COLA)	30	1,075	2,985
K. Subtotal	3,550	104,366	2,450
V. Firefighters			
A. Division A	147	4,377	2,481
B. Division B	1,115	38,972	2,913
C. Subtotal	1,262	43,349	2,862
VI. Judges	119	9,149	6,407
VII. Governors and Legislative	224	806	300
VIII. Tier II - Hybrid Plans			
A. Public Employees	0	0	0
B. Public Safety and Firefighter	0	0	0
IX. Grand Total	51,677	1,139,783	1,838

Market Value of Assets
(All Retirement Systems Combined)

Item	December 31, 2011	December 31, 2012
(1)	(2)	(3)
1. Cash	106	2,897
2. Receivables		
a. Member contributions	974	909
b. Employer contributions	40,288	45,689
c. Fire insurance premium tax & court fees	3,307	672
d. Investments	437,433	343,781
e. Total	482,002	391,051
3. Investments		
a. Short-term securities - domestic	995,025	1,295,797
b. Short-term securities - international	22,380	40,811
c. Bonds - domestic	3,137,822	3,041,029
d. Bonds - international	884,193	1,051,472
e. Equities - domestic	4,575,996	3,597,100
f. Equities - international	2,747,045	4,675,284
g. Absolute return	3,286,714	3,474,308
h. Private equity	2,254,396	2,593,847
i. Real estate	2,885,926	3,094,442
j. Mortgage loans	6,845	6,847
k. Total	20,796,342	22,870,937
4. Other	1,733,787	1,596,502
5. Total Assets	23,012,237	24,861,387
6. Liabilities		
a. Securities lending liability	(1,732,651)	(1,590,130)
b. Other accounting liabilities and reserves	(1,326,733)	(1,120,658)
c. Public Safety Restricted 4% COLA Account	(5,328)	0
d. Total	(3,064,712)	(2,710,788)
7. Net assets	19,947,525	22,150,599

Note: Assets exclude the defined contribution plans
Amount shown are in \$ thousands
Amounts shown are from the December 31, 2012 Comprehensive Annual Financial Report
and may differ from other numbers contained in this report due to rounding.

Reconciliation of Market Value of Assets (MVA)

Fund/Division (1)	MVA as of Dec. 31, 2011 (2)	Contributions (3)	Benefits and Refunds (4)	Earnings, Net of Expenses (5)	Transfers (6)	MVA as of Dec. 31, 2012 (7)
I. Public Employees Contributory						
A. Local Government	349,446	9,979	(21,121)	44,889	10,891	394,084
B. State and School	663,604	8,688	(51,709)	85,779	36,207	742,570
C. Subtotal	1,013,051	18,667	(72,830)	130,668	47,098	1,136,653
II. Public Employees Noncontributory						
A. Local Government	2,881,413	135,117	(137,212)	362,873	(9,195)	3,232,997
B. State and School	12,874,912	496,792	(765,733)	1,607,225	(13,359)	14,199,837
C. Subtotal	15,756,325	631,909	(902,945)	1,970,098	(22,554)	17,432,834
III. Public Safety Contributory						
A. State	46,136	63	(6,011)	5,910	4,072	50,171
B. Other Division A (2.5% COLA)	112,327	1,374	(9,642)	14,629	7,382	126,070
C. Other Division A (4% COLA)	24,214	93	(2,554)	3,058	1,393	26,204
D. Logan	10,987	166	(856)	1,425	676	12,398
E. Other Division B (2.5% COLA)	26,966	156	(2,019)	3,656	3,016	31,775
F. Other Division B (4% COLA)	6,849	120	(452)	852	87	7,457
G. Subtotal	227,479	1,973	(21,535)	29,531	16,625	254,073
IV. Public Safety Noncontributory						
A. State	686,587	40,268	(43,426)	86,227	3,262	772,918
B. Other Division A (2.5% COLA)	588,428	32,457	(27,573)	73,612	(10,194)	656,730
C. Other Division A (4% COLA)	155,626	10,279	(7,085)	19,793	1,062	179,674
D. Salt Lake City	180,371	11,023	(14,726)	22,539	300	199,508
E. Ogden	43,379	2,285	(3,778)	5,396	181	47,463
F. Provo	31,587	1,951	(2,292)	3,974	66	35,287
G. Logan	7,580	751	(365)	903	(627)	8,242
H. Bountiful	14,623	597	(1,276)	1,799	(115)	15,627
I. Other Division B (2.5% COLA)	140,248	15,962	(5,730)	18,259	1,716	170,456
J. Other Division B (4% COLA)	22,520	1,584	(1,048)	2,876	140	26,073
K. Subtotal	1,870,948	117,157	(107,298)	235,379	(4,209)	2,111,978
V. Firefighters						
A. Division A	113,752	8,345	(4,414)	14,420	(74)	132,030
B. Division B	651,774	26,480	(39,386)	81,479	1,399	721,747
C. Subtotal	765,526	34,825	(43,799)	95,899	1,325	853,776
VI. Judges	123,237	5,898	(9,134)	15,418	710	136,129
VII. Governors and Legislative	8,932	214	(816)	1,095	19	9,444
VIII. 3% Substantial Substitute	179,146	28,011	(45)	22,499	(33,008)	196,603
IX. Tier II- Hybrid Plans						
A. Public Employees	2,799	14,210	0	922	5	17,935
B. Public Safety and Firefighter	90	1,028	0	60	(5)	1,172
X. Grand Total	19,947,533	853,892	(1,158,403)	2,501,569	6,006	22,150,596

Note: Amounts shown are in \$ thousands
Columns may not add to total due to rounding

Investment Return Rates for Prior Year

	Basis of Assets	
	Market Value	Actuarial Value
	(1)	(2)
1. Beginning of year assets	19,947,533	21,111,759
2. Contributions to fund during year	853,892	853,892
3. Benefit payments during year (including refunds of contributions)	(1,158,403)	(1,158,403)
4. Transfers to and (from) URS	6,006	6,006
5. Investment income, net of investment and administrative expenses	2,501,569	562,820
6. End of year assets	22,150,596	21,370,068
7. Investment rate return	12.6%	2.7%

Note: Amounts shown are in \$ thousands

Summary of Investment Return Rates

Year	Return on Market Value	Return on Actuarial Value
(1)	(2)	(3)
1992	4.3%	10.5%
1993	15.7%	13.8%
1994	0.0%	8.8%
1995	21.4%	11.6%
1996	14.7%	11.7%
1997	15.8%	13.7%
1998	9.4%	12.6%
1999	16.3%	14.7%
2000	1.8%	11.2%
2001	-5.3%	6.8%
2002	-8.0%	-1.5%
2003	25.6%	8.0%
2004	13.7%	5.3%
2005	9.2%	7.4%
2006	14.4%	11.1%
2007	6.6%	13.0%
2008	-23.4%	-1.1%
2009	13.2%	6.1%
2010	13.2%	2.9%
2011	2.5%	1.3%
2012	12.6%	2.7%
Average return		
Last 5 years:	2.5%	2.4%
Last 10 years:	8.0%	5.6%
Last 15 years:	6.1%	6.6%
Last 20 years:	7.9%	7.9%

**Calculation of Actuarial Value of Assets
(All Retirement Systems Combined)**

- | | | |
|----|---|------------|
| 1. | Market value of assets | 22,150,596 |
| 2. | Adjustments to smooth asset values based on excess/shortfall of expected investment income for: | |

	Year	Total Excess / (Shortfall)	Weight Subtracted	Weight Subtracted
a.	2012	1,016,923	80%	813,538
b.	2011	(977,081)	60%	(586,249)
c.	2010	955,219	40%	382,088
d.	2009	855,756	20%	171,151
e.	2008	(6,489,978)	0%	0
f.	Total			780,528

- | | | |
|----|--|------------|
| 3. | Preliminary actuarial value of assets (1-2f) | 21,370,068 |
| 4. | Corridor Limits | |
| a. | 75% of market value | 16,612,947 |
| b. | 125% of market value | 27,688,245 |
| c. | Actuarial value (Item 3, not more than 4b, not less than 4a) | 21,370,068 |
| 5. | Ratio of actuarial value to market value | 96.5% |

Note: Amounts shown are in \$ thousands

Transfer Adjustments to Asset Values

Fund/Division (1)	Market Value of Assets (MVA) at January 1, 2013			Actuarial Value of Assets (AVA) at January 1, 2013		
	MVA Before Transfer	Transfer Amount	MVA After Transfer	AVA Before Transfer	Transfer Amount	AVA After Transfer
	(2)	(3)	(4)	(5)	(6)	(7)
I. Public Employees Contributory						
A. Local Government	394,084	8,115	402,199	379,966	7,833	387,799
B. State and School	742,570	31,846	774,416	714,919	30,715	745,634
C. Subtotal	1,136,653	39,961	1,176,614	1,094,885	38,548	1,133,433
II. Public Employees Noncontributory						
A. Local Government	3,232,997	(8,115)	3,224,882	3,120,761	(7,833)	3,112,928
B. State and School	14,199,837	(31,846)	14,167,991	13,695,576	(30,715)	13,664,861
C. Subtotal	17,432,834	(39,961)	17,392,873	16,816,337	(38,548)	16,777,789
III. Public Safety Contributory						
A. State	50,171	4,564	54,735	48,110	4,406	52,516
B. Other Division A (2.5% COLA)	126,070	7,803	133,873	121,316	7,528	128,844
C. Other Division A (4% COLA)	26,204	1,938	28,142	25,012	1,870	26,882
D. Logan	12,398	248	12,646	11,937	240	12,177
E. Other Division B (2.5% COLA)	31,775	2,173	33,947	30,669	2,096	32,765
F. Other Division B (4% COLA)	7,457	230	7,687	7,185	222	7,407
G. Subtotal	254,073	16,956	271,029	244,229	16,362	260,591
IV. Public Safety Noncontributory						
A. State	772,918	(4,564)	768,354	746,235	(4,406)	741,829
B. Other Division A (2.5% COLA)	656,730	(7,803)	648,927	634,554	(7,528)	627,026
C. Other Division A (4% COLA)	179,674	(1,938)	177,735	173,642	(1,870)	171,772
D. Salt Lake City	199,508	0	199,508	192,462	0	192,462
E. Ogden	47,463	0	47,463	45,734	0	45,734
F. Provo	35,287	0	35,287	34,039	0	34,039
G. Logan	8,242	(248)	7,994	7,974	(240)	7,734
H. Bountiful	15,627	0	15,627	15,052	0	15,052
I. Other Division B (2.5% COLA)	170,456	(2,173)	168,283	164,872	(2,096)	162,776
J. Other Division B (4% COLA)	26,073	(230)	25,842	25,118	(222)	24,896
K. Subtotal	2,111,978	(16,956)	2,095,022	2,039,682	(16,362)	2,023,320
V. Firefighters						
A. Division A	132,030	0	132,030	127,969	0	127,969
B. Division B	721,747	0	721,747	696,091	0	696,091
C. Subtotal	853,776	0	853,776	824,060	0	824,060
VI. Judges	136,129	0	136,129	131,217	0	131,217
VII. Governors and Legislative	9,444	0	9,444	9,077	0	9,077
VIII. 3% Substantial Substitute	196,603	0	196,603	191,603	0	191,603
IX. Tier II - Hybrid Plans						
A. Public Employees	17,935	0	17,935	17,817	0	17,817
B. Public Safety and Firefighter	1,172	0	1,172	1,161	0	1,161
X. Grand Total	22,150,596	0	22,150,596	21,370,068	0	21,370,068

Notes: Amounts shown are in \$ thousands
Columns may not add to total due to rounding

Actuarially Determined Contribution Rate for 3% Substantial Substitute

1. Actuarial accrued liability, all funds combined	
a. Retirees	352,694
b. Inactives	24,687
c. Actives	<u>148,374</u>
d. Total	525,755
2. Actuarial value of assets	191,603
3. Unfunded actuarial accrued liability	334,152
4. Covered compensation of state funds that will pay for benefit	3,242,248
5. Calculated rate (21-year funding period and 3.50% PGR)	0.71%

Notes: Amounts shown are in \$ thousands

Columns may not add to total due to rounding

Liabilities for 3% Substantial Substitute

Fund/Division (1)	Retirees and Beneficiaries (2)	Inactive Members (3)	Active Members (4)	Total (5)
I. Public Employees Contributory				
A. Local Government	5,988	930	5,219	12,137
B. State and School	13,773	1,920	9,423	25,115
C. Subtotal	19,761	2,850	14,642	37,252
II. Public Employees Noncontributory				
A. Local Government	39,951	4,911	22,032	66,894
B. State and School	233,756	13,035	100,329	347,119
C. Subtotal	273,707	17,946	122,361	414,013
III. Public Safety Contributory				
A. State	1,468	24	48	1,540
B. Other Division A (2.5% COLA)	3,010	342	117	3,468
C. Other Division A (4% COLA)	725	15	11	751
D. Logan	313	10	0	323
E. Other Division B (2.5% COLA)	778	41	38	857
F. Other Division B (4% COLA)	165	11	0	176
G. Subtotal	6,459	443	214	7,115
IV. Public Safety Noncontributory				
A. State	14,514	466	2,702	17,682
B. Other Division A (2.5% COLA)	9,035	2,019	1,623	12,676
C. Other Division A (4% COLA)	2,265	183	464	2,912
D. Salt Lake City	4,871	91	670	5,632
E. Ogden	1,342	19	92	1,452
F. Provo	759	15	163	937
G. Logan	111	16	66	192
H. Bountiful	408	8	34	450
I. Other Division B (2.5% COLA)	1,876	200	600	2,676
J. Other Division B (4% COLA)	404	42	188	634
K. Subtotal	35,585	3,059	6,602	45,243
V. Firefighters				
A. Division A	1,367	160	550	2,077
B. Division B	13,250	105	3,021	16,376
C. Subtotal	14,617	265	3,571	18,453
VI. Judges	2,431	60	979	3,470
VII. Governors and Legislative	136	65	7	208
VIII. Tier II - Hybrid Plans				
A. Public Employees	0	0	0	0
B. Public Safety and Firefighter	0	0	0	0
VIII. Grand Total	352,696	24,688	148,376	525,754

Notes: Amounts shown are in \$ thousands
Columns may not add to total due to rounding

**Governors and Legislative Pension Plan
Determination of Contribution**

1. Actuarial Accrued Liability	
a. Retirees	6,395,518
b. Inactives	3,757,392
c. Actives	<u>1,772,095</u>
d. Total	11,925,005
2. Actuarial Value of Assets	9,077,000
3. Unfunded Actuarial Accrued Liability (UAAL) (1d) - (2)	2,848,005
4. Normal Cost	99,795
5. Total Recommended Appropriation Payable by June 30, 2015	
a. Normal Cost	99,795
b. Amortization Charge	<u>264,518</u>
c. Subtotal	364,313
d. Interest Adjustment (two years at 7.50%)	<u>56,696</u>
e. Total	421,009

**Historical Summary of Statistical Data
Public Employees Retirement System
(Contributory)**

Plan Year Beginning January 1st	Participant Counts				Covered Payroll (\$ Thousands)	Average Pay (7)	Retirement Benefits in Force Annual Amount (\$ Thousands)	Average Retiree Monthly Benefit (9)	Market Value of Assets (\$ Thousands)	Actuarial Value of Assets (\$ Thousands)
	Active (2)	Inactive (3)	Retired (4)	Total (5)						
1993	11,405	1,497	11,858	24,760	283,299	24,840	57,608	405	833,053	800,806
1994	10,826	1,733	11,444	24,003	280,655	25,924	57,861	421	929,993	880,979
1995	10,421	1,805	11,115	23,341	284,657	27,316	58,345	437	922,155	935,845
1996	6,954	2,028	10,645	19,627	195,717	28,145	58,238	456	919,007	852,034
1997	4,673	1,906	10,176	16,755	135,083	28,907	57,770	473	859,304	772,977
1998	4,396	1,975	9,724	16,095	134,341	30,560	57,496	493	916,532	809,388
1999	4,144	2,089	9,208	15,441	133,440	32,201	56,599	512	927,169	840,215
2000	3,967	2,134	8,717	14,818	133,615	33,682	55,716	533	974,834	878,190
2001	3,827	2,149	8,264	14,240	134,816	35,228	56,264	567	936,798	924,573
2002	3,703	2,262	7,822	13,787	137,721	37,192	55,569	592	827,741	927,523
2003	3,608	2,269	7,375	13,252	137,743	38,177	54,765	619	749,408	899,290
2004	3,444	2,293	6,916	12,653	134,144	38,950	53,815	648	873,520	913,948
2005	3,318	2,285	6,550	12,153	134,810	40,630	53,630	682	971,242	933,974
2006	3,140	2,321	5,963	11,424	131,437	41,859	51,646	722	1,014,414	951,540
2007	2,964	2,372	5,687	11,023	127,588	43,046	53,059	777	1,105,890	1,004,452
2008	2,821	2,425	5,718	10,964	128,030	45,385	57,596	839	1,142,078	1,102,107
2009	2,701	2,476	5,408	10,585	128,970	47,749	58,318	899	878,169	1,097,711
2010	2,470	2,467	5,171	10,108	120,258	48,687	62,382	1,005	939,905	1,116,735
2011	2,289	2,416	4,947	9,652	110,691	48,358	64,170	1,081	1,046,886	1,132,661
2012	2,110	2,364	4,751	9,225	104,065	49,320	65,688	1,152	1,065,149	1,135,251
2013	1,891	2,306	4,573	8,770	95,985	50,759	68,055	1,240	1,176,614	1,133,433

**Historical Summary of Statistical Data
Public Employees Retirement System
(Noncontributory)**

Plan Year Beginning January 1st	Participant Counts				Covered Payroll (\$ Thousands)	Average Pay (7)	Retirement Benefits in Force Annual Amount (\$ Thousands)	Average Retiree Monthly Benefit (9)	Market Value of Assets (\$ Thousands)	Actuarial Value of Assets (\$ Thousands)
	Active (2)	Inactive (3)	Retired (4)	Total (5)						
1993	59,739	7,911	7,023	74,673	1,425,612	23,864	89,557	1,063	3,609,761	3,480,582
1994	63,448	9,507	8,025	80,980	1,536,528	24,217	104,731	1,088	4,258,021	4,039,120
1995	67,698	10,131	9,143	86,972	1,688,967	24,949	121,850	1,111	4,312,948	4,372,190
1996	69,922	12,413	10,458	92,793	1,862,940	26,643	142,838	1,138	5,497,373	5,128,203
1997	73,478	13,965	11,841	99,284	2,048,876	27,884	166,432	1,171	6,547,598	5,954,796
1998	76,728	15,383	13,242	105,353	2,231,957	29,089	192,723	1,213	7,711,808	6,896,740
1999	77,360	17,494	14,645	109,499	2,343,986	30,300	220,230	1,253	8,560,909	7,894,249
2000	80,639	18,630	16,163	115,432	2,486,200	30,831	248,366	1,281	10,112,606	9,186,463
2001	81,850	20,357	17,728	119,935	2,611,413	31,905	280,910	1,320	10,367,596	10,294,444
2002	83,690	27,385	19,145	130,220	2,801,564	33,475	314,821	1,370	9,848,682	11,021,828
2003	83,925	26,664	20,623	131,212	2,888,853	34,422	351,690	1,421	8,963,388	10,756,065
2004	84,039	28,673	22,202	134,914	2,915,008	34,686	388,305	1,457	11,191,566	11,551,092
2005	85,502	30,498	23,782	139,782	3,058,487	35,771	426,813	1,496	12,639,732	12,093,408
2006	86,502	33,035	25,446	144,983	3,121,800	36,089	466,287	1,527	13,756,039	12,935,862
2007	87,960	34,820	27,866	150,646	3,284,295	37,339	532,188	1,592	15,664,709	14,295,945
2008	91,342	36,713	30,325	158,380	3,583,525	39,232	596,337	1,639	16,564,574	16,026,629
2009	93,633	38,324	32,104	164,061	3,837,934	40,989	642,434	1,668	12,533,979	15,667,473
2010	92,847	39,583	34,433	166,863	3,888,415	41,847	726,282	1,758	13,992,989	16,434,614
2011	91,871	40,928	36,612	169,411	3,842,855	41,828	778,376	1,772	15,585,991	16,663,090
2012	87,220	42,646	38,708	168,574	3,760,961	43,120	830,698	1,788	15,704,227	16,615,078
2013	80,837	44,655	40,959	166,451	3,610,948	44,669	892,610	1,816	17,392,873	16,777,789

**Historical Summary of Statistical Data
Public Safety Retirement System
(Contributory)**

Plan Year Beginning January 1st	Participant Counts				Covered Payroll (\$ Thousands)	Average Pay (7)	Retirement Benefits in Force Annual Amount (\$ Thousands)	Average Retiree Monthly Benefit (9)	Market Value of Assets (\$ Thousands)	Actuarial Value of Assets (\$ Thousands)
	Active (2)	Inactive (3)	Retired (4)	Total (5)						
1993	1,591	705	1,251	3,547	44,934	28,244	14,860	990	295,915	285,043
1994	1,601	714	1,273	3,588	46,728	29,187	15,373	1,006	326,536	311,148
1995	1,280	568	1,294	3,142	38,571	30,134	16,087	1,036	284,198	289,572
1996	971	525	1,321	2,817	30,304	31,209	17,323	1,093	310,209	291,478
1997	952	543	1,322	2,817	31,940	33,550	17,735	1,118	335,065	304,699
1998	1,006	531	1,340	2,877	34,262	34,058	18,487	1,150	364,531	324,488
1999	855	498	1,344	2,697	29,704	34,742	19,147	1,187	347,477	316,739
2000	804	486	1,333	2,623	28,957	36,016	19,351	1,210	363,654	327,635
2001	794	479	1,243	2,516	30,021	37,810	18,611	1,248	331,370	326,949
2002	795	503	1,257	2,555	30,783	38,721	19,480	1,291	293,617	328,959
2003	789	502	1,250	2,541	31,501	39,925	20,222	1,348	269,041	322,275
2004	759	519	1,249	2,527	31,688	41,749	20,759	1,385	316,514	331,432
2005	740	522	1,241	2,503	32,446	43,846	21,202	1,424	352,753	339,304
2006	698	526	1,256	2,480	31,443	45,047	22,127	1,468	368,717	345,699
2007	693	534	1,252	2,479	32,291	46,596	23,020	1,532	398,502	361,788
2008	539	505	1,101	2,145	25,700	47,681	20,452	1,548	330,176	318,303
2009	188	431	1,027	1,646	9,507	50,569	19,531	1,585	201,270	267,761
2010	165	404	1,046	1,615	8,398	50,906	21,177	1,687	222,779	271,894
2011	140	408	1,018	1,566	6,933	49,514	21,200	1,735	243,309	269,379
2012	130	398	1,003	1,531	6,475	49,817	21,293	1,769	244,173	263,771
2013	120	386	990	1,496	6,067	50,549	21,448	1,805	271,029	260,591

**Historical Summary of Statistical Data
Public Safety Retirement System
(Noncontributory)**

Plan Year Beginning January 1st	Participant Counts				Covered Payroll (\$ Thousands)	Average Pay (7)	Retirement Benefits in Force Annual Amount (\$ Thousands)	Average Retiree Monthly Benefit (9)	Market Value of Assets (\$ Thousands)	Actuarial Value of Assets (\$ Thousands)
	Active (2)	Inactive (3)	Retired (4)	Total (5)						
1993	3,198	185	175	3,558	85,678	26,791	2,935	1,398	200,668	193,301
1994	3,289	198	238	3,725	89,839	27,315	4,272	1,496	251,536	236,786
1995	3,899	360	304	4,563	111,292	28,544	5,684	1,558	297,278	300,101
1996	4,455	555	395	5,405	130,552	29,305	7,596	1,603	409,217	379,132
1997	4,720	614	492	5,826	149,086	31,586	9,870	1,672	496,197	450,407
1998	5,033	664	592	6,289	161,826	32,153	12,068	1,699	606,326	542,680
1999	5,427	752	747	6,926	180,904	33,334	15,603	1,741	726,304	672,062
2000	5,735	865	882	7,482	196,271	34,223	18,504	1,748	898,266	818,697
2001	5,974	832	1,118	7,924	212,442	35,561	23,428	1,746	964,708	960,047
2002	6,120	1,464	1,326	8,910	225,760	36,889	28,907	1,817	936,286	1,047,507
2003	6,228	1,733	1,462	9,423	237,192	38,085	33,444	1,906	855,508	1,027,160
2004	6,324	1,915	1,617	9,856	243,745	38,543	38,614	1,990	1,087,654	1,117,457
2005	6,428	2,093	1,808	10,329	257,241	40,019	44,508	2,051	1,241,290	1,185,601
2006	6,556	2,283	2,038	10,877	263,905	40,254	51,112	2,090	1,367,735	1,287,322
2007	6,740	2,481	2,205	11,426	282,955	41,981	57,294	2,165	1,582,989	1,447,411
2008	7,015	2,633	2,612	12,260	311,886	44,460	67,997	2,169	1,776,121	1,720,309
2009	7,642	2,854	2,841	13,337	356,186	46,609	75,602	2,218	1,409,649	1,745,887
2010	7,519	3,066	3,042	13,627	359,978	47,983	84,735	2,321	1,598,416	1,861,644
2011	7,443	3,186	3,207	13,836	355,318	47,739	91,555	2,379	1,809,515	1,919,525
2012	7,495	3,613	3,355	14,463	360,231	48,063	96,988	2,409	1,854,254	1,952,972
2013	7,129	3,877	3,550	14,556	350,623	49,183	104,366	2,450	2,095,022	2,023,320

**Historical Summary of Statistical Data
Firefighters Retirement System**

Plan Year Beginning January 1st	Participant Counts				Covered Payroll (\$ Thousands)	Average Pay (7)	Retirement Benefits in Force Annual Amount (\$ Thousands)	Average Retiree Monthly Benefit (9)	Market Value of Assets (\$ Thousands)	Actuarial Value of Assets (\$ Thousands)
	Active (2)	Inactive (3)	Retired (4)	Total (5)						
1993	1,072	89	587	1,748	36,500	34,049	8,209	1,165	211,975	203,985
1994	1,079	100	595	1,774	37,191	34,468	8,678	1,215	247,715	234,501
1995	1,123	103	618	1,844	39,669	35,324	9,811	1,323	249,712	253,304
1996	1,165	116	644	1,925	42,599	36,566	10,397	1,415	315,063	293,816
1997	1,229	123	675	2,027	47,550	38,690	12,049	1,488	362,555	329,475
1998	1,285	130	707	2,122	50,886	39,600	13,747	1,620	421,184	376,178
1999	1,352	156	736	2,244	54,402	40,238	14,940	1,692	460,190	423,405
2000	1,380	160	772	2,312	57,664	41,786	16,112	1,739	532,783	483,373
2001	1,433	173	823	2,429	61,593	42,982	18,163	1,839	540,822	536,503
2002	1,504	179	866	2,549	66,871	44,462	20,008	1,925	508,565	569,151
2003	1,545	197	884	2,626	71,347	46,179	22,246	2,097	461,324	553,589
2004	1,577	222	920	2,719	75,148	47,653	22,859	2,071	570,160	589,502
2005	1,608	237	948	2,793	79,168	49,234	24,242	2,131	637,979	610,688
2006	1,647	294	979	2,920	83,495	50,695	26,064	2,219	686,062	644,496
2007	1,690	315	1,021	3,026	87,089	51,532	28,312	2,311	773,774	705,051
2008	1,786	338	1,098	3,222	94,488	52,905	31,944	2,424	814,674	787,663
2009	1,852	370	1,120	3,342	101,508	54,810	33,985	2,529	612,696	765,871
2010	1,899	396	1,168	3,463	105,341	55,472	37,991	2,711	682,218	802,576
2011	1,890	399	1,199	3,488	105,471	55,805	39,823	2,768	756,256	810,216
2012	1,931	451	1,227	3,609	108,222	56,045	41,291	2,804	765,526	810,764
2013	1,874	463	1,262	3,599	107,495	57,361	43,349	2,862	853,776	824,060

**Historical Summary of Statistical Data
Judges Retirement System**

Plan Year Beginning January 1st	Participant Counts				Covered Payroll (\$ Thousands)	Average Pay (7)	Retirement Benefits in Force Annual Amount (\$ Thousands)	Average Retiree Monthly Benefit (9)	Market Value of Assets (\$ Thousands)	Actuarial Value of Assets (\$ Thousands)
	Active (2)	Inactive (3)	Retired (4)	Total (5)						
1993	80	1	62	143	6,434	80,424	1,597	2,147	31,388	30,254
1994	85	1	68	154	6,897	81,142	1,930	2,365	37,398	35,479
1995	87	0	70	157	7,263	83,488	2,193	2,610	38,220	38,726
1996	98	3	70	171	8,480	86,534	2,309	2,749	47,531	44,304
1997	100	1	69	170	9,202	92,019	2,396	2,894	55,757	50,721
1998	102	1	72	175	9,298	91,158	2,778	3,215	66,299	59,373
1999	103	2	73	178	9,667	93,850	2,970	3,391	73,650	67,998
2000	106	2	73	181	10,150	95,750	3,078	3,514	85,921	78,130
2001	104	4	75	183	10,318	99,208	3,299	3,666	87,731	87,139
2002	106	4	78	188	10,910	102,925	3,608	3,855	82,760	92,649
2003	106	4	77	187	11,095	104,674	3,728	4,035	75,753	90,904
2004	106	5	83	194	11,163	105,311	4,306	4,324	94,467	97,412
2005	108	6	84	198	11,820	109,442	4,431	4,396	105,483	100,814
2006	109	5	85	199	11,721	107,533	4,711	4,618	113,353	106,374
2007	110	5	87	202	12,336	112,143	5,145	4,928	128,300	116,879
2008	110	6	96	212	13,387	121,700	5,931	5,149	134,366	129,847
2009	110	5	97	212	14,347	130,423	6,190	5,318	100,896	126,120
2010	108	4	107	219	14,458	133,873	7,435	5,791	111,727	131,491
2011	110	5	115	230	14,849	134,987	8,555	6,199	123,037	131,869
2012	112	4	118	234	15,061	134,477	8,692	6,138	123,237	130,561
2013	111	4	119	234	14,922	134,432	9,149	6,407	136,129	131,217

**Historical Summary of Statistical Data
Legislative and Governors Retirement System**

Plan Year Beginning January 1st	Participant Counts				Covered Payroll (\$ Thousands)	Average Pay (7)	Retirement Benefits in Force Annual Amount (\$ Thousands)	Average Retiree Monthly Benefit (9)	Market Value of Assets (\$ Thousands)	Actuarial Value of Assets (\$ Thousands)
	Active (2)	Inactive (3)	Retired (4)	Total (5)						
1993	84	120	180	384	246	2,925	396	183	7,443	7,122
1994	93	126	188	407	427	4,593	385	171	8,089	7,683
1995	89	112	196	397	412	4,628	422	180	7,684	7,804
1996	96	111	201	408	439	4,569	445	184	8,788	8,185
1997	75	115	200	390	367	4,892	457	190	9,561	8,636
1998	90	108	208	406	488	5,419	476	191	10,531	9,318
1999	91	99	211	401	495	5,440	504	199	10,976	9,988
2000	94	101	221	416	511	5,437	531	200	12,159	10,946
2001	86	96	218	400	478	5,557	536	205	11,724	11,569
2002	94	107	228	429	601	6,391	562	206	10,448	11,710
2003	94	105	231	430	592	6,297	585	211	8,932	10,719
2004	100	110	223	433	610	6,097	573	214	10,390	10,906
2005	97	103	221	421	521	5,374	577	218	11,066	10,650
2006	88	113	224	425	788	8,955	608	226	11,319	10,587
2007	89	110	216	415	797	8,955	604	233	12,163	10,983
2008	92	118	220	430	538	5,850	596	226	12,195	11,736
2009	91	111	222	424	532	5,850	580	218	8,673	10,841
2010	94	117	223	434	585	6,224	773	289	8,995	10,770
2011	83	119	221	423	547	6,587	778	293	9,337	10,197
2012	96	116	219	431	505	5,256	819	312	8,932	9,565
2013	74	125	224	423	390	5,265	806	300	9,444	9,077

**Historical Summary of Statistical Data
 Tier II Public Employees' Hybrid Retirement System**

Plan Year Beginning January 1st	Participant Counts				Covered Payroll (\$ Thousands)	Average Pay (7)	Retirement Benefits in Force Annual Amount (\$ Thousands)	Average Retiree Monthly Benefit (9)	Market Value of Assets (\$ Thousands)	Actuarial Value of Assets (\$ Thousands)
	Active (2)	Inactive (3)	Retired (4)	Total (5)						
2012	4,342	0	0	4,342	115,876	26,687	0	0	2,799	2,833
2013	9,510	0	0	9,510	269,287	28,316	0	0	17,935	17,817

**Historical Summary of Statistical Data
 Tier II Public Safety and Firefighter Hybrid Retirement System**

Plan Year Beginning January 1st	Participant Counts				Covered Payroll (\$ Thousands)	Average Pay (7)	Retirement Benefits in Force Annual Amount (\$ Thousands)	Average Retiree Monthly Benefit (9)	Market Value of Assets (\$ Thousands)	Actuarial Value of Assets (\$ Thousands)
	Active (2)	Inactive (3)	Retired (4)	Total (5)						
2012	87	0	0	87	3,146	36,161	0	0	90	90
2013	439	0	0	439	16,152	36,793	0	0	1,172	1,161

Supplemental Exhibit 1(a)
Condensed Retirement Contribution Rate Guide
Fiscal Year July 1, 2014 - June 30, 2015

Fund/Division (1)	Tier I DB System			Tier I Post Retired		Tier II - DB Hybrid System			Tier II - DC Plan		
	Contribution Reporting Fields Tier I 2014-2015 Rates			Post Retired Employment post June 30, 2010	Post Retired Employment prior July 1, 2010	Contribution Reporting Fields Tier II 2014-2015 Rates			Contribution Reporting Fields Tier II 2014-2015 Rates		
	Member (2)	Employer (3)	Total (4)	Amort of UAAL* (5)	Optional 401(k) Cap (7)	Employer (8)	401(k) (9)	Total (10)	Employer (11)	401(k) (12)	Total (13)
I. Public Employees Contributory											
Local Government	6.00%	14.46%	20.46%	8.37%	12.09%	16.70%	1.78%	18.48%	8.48%	10.00%	18.48%
State and School	6.00%	17.70%	23.70%	12.25%	11.45%	20.58%	1.78%	22.36%	12.36%	10.00%	22.36%
II. Public Employees Noncontributory											
Local Government	0.00%	18.47%	18.47%	6.61%	11.86%	14.94%	1.78%	16.72%	6.72%	10.00%	16.72%
State and School	0.00%	22.19%	22.19%	9.94%	12.25%	18.27%	1.78%	20.05%	10.05%	10.00%	20.05%
III. Public Safety Contributory											
State	12.29%	29.70%	41.99%	18.46%	23.53%	29.26%	1.28%	30.54%	18.54%	12.00%	30.54%
Other Division A (2.5% COLA)	12.29%	22.75%	35.04%	11.75%	23.29%	22.55%	1.28%	23.83%	11.83%	12.00%	23.83%
Other Division A (4% COLA)	12.29%	24.33%	36.62%	12.91%	23.71%	23.71%	1.28%	24.99%	12.99%	12.00%	24.99%
Logan	11.13%	31.80%	42.93%	19.33%	23.60%	30.13%	1.28%	31.41%	19.41%	12.00%	31.41%
Other Division B (2.5% COLA)	10.50%	22.29%	32.79%	9.75%	23.04%	20.55%	1.28%	21.83%	9.83%	12.00%	21.83%
Other Division B (4% COLA)	10.50%	28.95%	39.45%	15.92%	23.53%	26.72%	1.28%	28.00%	16.00%	12.00%	28.00%
IV. Public Safety Noncontributory											
State	0.00%	41.35%	41.35%	18.46%	22.89%	29.26%	1.28%	30.54%	18.54%	12.00%	30.54%
Other Division A (2.5% COLA)	0.00%	34.04%	34.04%	11.75%	22.29%	22.55%	1.28%	23.83%	11.83%	12.00%	23.83%
Other Division A (4% COLA)	0.00%	35.71%	35.71%	12.91%	22.80%	23.71%	1.28%	24.99%	12.99%	12.00%	24.99%
Salt Lake City	0.00%	46.67%	46.67%	24.17%	22.50%	34.97%	1.28%	36.25%	24.25%	12.00%	36.25%
Ogden	0.00%	48.68%	48.68%	26.27%	22.41%	37.07%	1.28%	38.35%	26.35%	12.00%	38.35%
Provo	0.00%	42.16%	42.16%	19.56%	22.60%	30.36%	1.28%	31.64%	19.64%	12.00%	31.64%
Logan	0.00%	41.92%	41.92%	19.33%	22.59%	30.13%	1.28%	31.41%	19.41%	12.00%	31.41%
Bountiful	0.00%	47.33%	47.33%	24.88%	22.45%	35.68%	1.28%	36.96%	24.96%	12.00%	36.96%
Other Division B (2.5% COLA)	0.00%	32.20%	32.20%	9.64%	22.56%	20.44%	1.28%	21.72%	9.72%	12.00%	21.72%
Other Division B (4% COLA)	0.00%	38.94%	38.94%	15.92%	23.02%	26.72%	1.28%	28.00%	16.00%	12.00%	28.00%
V. Firefighters											
Division A	15.05%	3.82%	18.87%	0.00%	18.87%	10.80%	1.28%	12.08%	0.08%	12.00%	12.08%
Division B	16.71%	6.59%	23.30%	0.00%	23.30%	10.80%	1.28%	12.08%	0.08%	12.00%	12.08%
VI. Judges	0.00%	40.01%	40.01%								

Note: The cost of the 75% of pay active death benefit is 0.11% for Public Employee funds and 0.08% for Public Safety and Firefighter funds and is included in the contribution rates shown above.

* Unfunded actuarial accrued liability

** Does not include required 1.50% 401(k) contribution.

Supplemental Exhibit 1(b)
Tier I Retirement Contribution Rates as a Percentage of Salary and Wages
Fiscal Year July 1, 2014 - June 30, 2015

Fund/Division (1)	2013-2014 Contribution Rates				2014-2015 Contribution Rates				Increase / (Decrease) (10)
	Member (2)	Employer (3)	Dth Ben (4)	Total (5)	Member (6)	Employer (7)	Dth Ben (8)	Total (9)	
I. Public Employees Contributory									
Local Government	6.00%	13.19%	0.09%	19.28%	6.00%	14.46%	N/A	20.46%	1.18%
State and School	6.00%	15.88%	0.09%	21.97%	6.00%	17.70%	N/A	23.70%	1.73%
II. Public Employees Noncontributory									
Local Government	0.00%	17.20%	0.09%	17.29%	0.00%	18.47%	N/A	18.47%	1.18%
State and School	0.00%	20.37%	0.09%	20.46%	0.00%	22.19%	N/A	22.19%	1.73%
III. Public Safety Contributory									
State	12.29%	27.63%		39.92%	12.29%	29.70%		41.99%	2.07%
Other Division A (2.5% COLA)	12.29%	20.83%		33.12%	12.29%	22.75%		35.04%	1.92%
Other Division A (4% COLA)	12.29%	22.75%		35.04%	12.29%	24.33%		36.62%	1.58%
Logan	11.13%	29.76%		40.89%	11.13%	31.80%		42.93%	2.04%
Other Division B (2.5% COLA)	10.50%	22.29%		32.79%	10.50%	22.29%		32.79%	0.00%
Other Division B (4% COLA)	10.50%	27.49%		37.99%	10.50%	28.95%		39.45%	1.46%
IV. Public Safety Noncontributory									
State	0.00%	39.31%		39.31%	0.00%	41.35%		41.35%	2.04%
Other Division A (2.5% COLA)	0.00%	32.14%		32.14%	0.00%	34.04%		34.04%	1.90%
Other Division A (4% COLA)	0.00%	34.17%		34.17%	0.00%	35.71%		35.71%	1.54%
Salt Lake City	0.00%	44.83%		44.83%	0.00%	46.67%		46.67%	1.84%
Ogden	0.00%	44.98%		44.98%	0.00%	48.68%		48.68%	3.70%
Provo	0.00%	39.97%		39.97%	0.00%	42.16%		42.16%	2.19%
Logan	0.00%	39.84%		39.84%	0.00%	41.92%		41.92%	2.08%
Bountiful	0.00%	42.79%		42.79%	0.00%	47.33%		47.33%	4.54%
Other Division B (2.5% COLA)	0.00%	32.20%		32.20%	0.00%	32.20%		32.20%	0.00%
Other Division B (4% COLA)	0.00%	37.45%		37.45%	0.00%	38.94%		38.94%	1.49%
V. Firefighters									
A. Division A									
Gross Rate	15.05%	14.71%		29.76%	15.05%	15.53%		30.58%	0.82%
Insurance Premium Offset	0.00%	-11.75%		-11.75%	0.00%	-11.71%		-11.71%	0.04%
Net Rate	15.05%	2.96%		18.01%	15.05%	3.82%		18.87%	0.86%
B. Division B									
Gross Rate	16.71%	16.21%		32.92%	16.71%	18.30%		35.01%	2.09%
Insurance Premium Offset	0.00%	-11.75%		-11.75%	0.00%	-11.71%		-11.71%	0.04%
Net Rate	16.71%	4.46%		21.17%	16.71%	6.59%		23.30%	2.13%
VI. Judges									
Gross Rate	0.00%	48.40%		48.40%	0.00%	51.91%		51.91%	3.51%
Court Fees Offset	0.00%	-12.74%		-12.74%	0.00%	-11.90%		-11.90%	0.84%
Net Rate	0.00%	35.66%		35.66%	0.00%	40.01%		40.01%	4.35%
VII. Governors and Legislative		\$ 411,489		\$ 411,489		\$ 421,009		\$ 421,009	\$ 9,520

Note: The cost of the 75% of pay active death benefit is included in the employer contribution rate provided in column (7) for the 2015 fiscal year.

1 Includes funding of 3% Substantial Substitute based on salaries for all state and school employees.

2 Does not include 1.5% 401(k).

Supplemental Exhibit 1(c)
Tier II Retirement Contribution Rates as a Percentage of Salary and Wages
Fiscal Year July 1, 2014 - June 30, 2015

Fund/Division (1)	Tier II Hybrid Retirement System						Tier II Defined Contribution Plan			
	Employer Tier II Rate (2)	Hybrid Plan DB Rate (3)	Hybrid Plan		Tier I Amort % (6)	Total (2)+(5)+(6) (7)	Employer Tier II Rate (8)	Death Benefit* (9)	Tier I Amort % (10)	Total (8)+(9)+(10) (11)
			DC Rate (2) - (3) (4)	Death Benefit* (5)						
I. Public Employees Contributory										
Local Government	10.00%	8.22%	1.78%	0.11%	8.37%	18.48%	10.00%	0.11%	8.37%	18.48%
II. Public Employees Noncontributory										
Local Government	10.00%	8.22%	1.78%	0.11%	6.61%	16.72%	10.00%	0.11%	6.61%	16.72%
State and School	10.00%	8.22%	1.78%	0.11%	9.94%	20.05%	10.00%	0.11%	9.94%	20.05%
III. Public Safety Contributory										
Other Division A (2.5% COLA)	12.00%	10.72%	1.28%	0.08%	11.75%	23.83%	12.00%	0.08%	11.75%	23.83%
Other Division A (4% COLA)	12.00%	10.72%	1.28%	0.08%	12.91%	24.99%	12.00%	0.08%	12.91%	24.99%
Other Division B (2.5% COLA)	12.00%	10.72%	1.28%	0.08%	9.75%	21.83%	12.00%	0.08%	9.75%	21.83%
Other Division B (4% COLA)	12.00%	10.72%	1.28%	0.08%	15.92%	28.00%	12.00%	0.08%	15.92%	28.00%
IV. Public Safety Noncontributory										
State	12.00%	10.72%	1.28%	0.08%	18.46%	30.54%	12.00%	0.08%	18.46%	30.54%
Other Division A (2.5% COLA)	12.00%	10.72%	1.28%	0.08%	11.75%	23.83%	12.00%	0.08%	11.75%	23.83%
Other Division A (4% COLA)	12.00%	10.72%	1.28%	0.08%	12.91%	24.99%	12.00%	0.08%	12.91%	24.99%
Salt Lake City	12.00%	10.72%	1.28%	0.08%	24.17%	36.25%	12.00%	0.08%	24.17%	36.25%
Ogden	12.00%	10.72%	1.28%	0.08%	26.27%	38.35%	12.00%	0.08%	26.27%	38.35%
Provo	12.00%	10.72%	1.28%	0.08%	19.56%	31.64%	12.00%	0.08%	19.56%	31.64%
Logan	12.00%	10.72%	1.28%	0.08%	19.33%	31.41%	12.00%	0.08%	19.33%	31.41%
Bountiful	12.00%	10.72%	1.28%	0.08%	24.88%	36.96%	12.00%	0.08%	24.88%	36.96%
Other Division B (2.5% COLA)	12.00%	10.72%	1.28%	0.08%	9.64%	21.72%	12.00%	0.08%	9.64%	21.72%
Other Division B (4% COLA)	12.00%	10.72%	1.28%	0.08%	15.92%	28.00%	12.00%	0.08%	15.92%	28.00%
V. Firefighters										
Division A*	12.00%	10.72%	1.28%	0.08%	0.00%	12.08%	12.00%	0.08%	0.00%	12.08%
Division B*	12.00%	10.72%	1.28%	0.08%	0.00%	12.08%	12.00%	0.08%	0.00%	12.08%

Note: * Employer paid active member death benefit (75% of salary) per Utah Code Section 49-22-501 and 49-23-501.

** For Firefighters, the fire insurance premium offset is applied first to the amortization charge, leaving no amount owed to Tier I by employers for Tier II firefighters.

APPENDIX 1

STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS

1. *Investment return rate:*

7.50% per annum, compounded annually, composed of a 2.75% inflation rate, a 5.10% real rate of return, then net of 0.35% for administrative and investment expenses.

2. *Active member mortality rates:*

Active member mortality rates are a function of the member’s sex, occupation, and age. These rates were developed based on plan experience. For the Public Safety and Firefighters Systems, 25% of deaths are assumed to be service related. Rates at selected ages are shown:

Active Male Members			
Age	Local Government and Public Employees	Public Educators	Public Safety and Firefighters¹
20	.000495	.000130	.000440
25	.000385	.000130	.000440
30	.000440	.000195	.000440
35	.000660	.000195	.000440
40	.000825	.000390	.000605
45	.001045	.000650	.001045
50	.001540	.001300	.001760
55	.002585	.002340	.002750
60	.004180	.003705	.003740
65	.006380	.004680	.004730
70	.009130	.005200	.005665

Active Female Members		
Age	Local Government and Public Employees	Public Educators
20	.000275	.000490
25	.000275	.000210
30	.000275	.000070
35	.000330	.000210
40	.000440	.000420
45	.000660	.000840
50	.001045	.001260
55	.001540	.001750
60	.002200	.002380
65	.003025	.003290
70	.004015	.004550

¹ Males and female combined.

3. *Disability rates:*

Disability rates are a function of the member’s sex, occupation, and age. These rates were developed based on plan experience. Rates are applied at all ages. For the Public Safety and Firefighters Systems, 25% of disabilities are assumed to be service related. Rates at selected ages are shown:

Active Male Members					
Age	Local Government	Public Employees	Public Educators	Public Safety	Firefighters
20	.000250	.000220	.000120	.000320	.000480
25	.000375	.000330	.000180	.000480	.000720
30	.000750	.000660	.000360	.000960	.001440
35	.001125	.000990	.000540	.001440	.002160
40	.001500	.001320	.000720	.001920	.002880
45	.002500	.002200	.001200	.003200	.004800
50	.003250	.002860	.001560	.004160	.006240
55	.005125	.004510	.002460	.006560	.009840
60	.007000	.006160	.003360	.008960	.013440

Active Female Members					
Age	Local Government	Public Employees	Public Educators	Public Safety	Firefighters
20	.000220	.000220	.000120	.000320	.000480
25	.000330	.000330	.000180	.000480	.000720
30	.000660	.000660	.000360	.000960	.001440
35	.000990	.000990	.000540	.001440	.002160
40	.001320	.001320	.000720	.001920	.002880
45	.002200	.002200	.001200	.003200	.004800
50	.002860	.002860	.001560	.004160	.006240
55	.004510	.004510	.002460	.006560	.009840
60	.006160	.006160	.003360	.008960	.013440

4. *Termination rates (for causes other than death, disability or retirement):*

Termination rates are a function of the member’s sex, occupation, and service. These rates were developed based on plan experience. Termination rates are not applied after a member becomes eligible for a reduced or unreduced retirement benefit.

Active Male Members					
Years of Service					
Service	Local Government	Public Employees	Public Educators	Public Safety	Firefighters
0	0.1900	0.2700	0.1300	0.1000	0.0825
1	0.1500	0.2450	0.1100	0.0650	0.0350
2	0.1100	0.1500	0.0900	0.0600	0.0300
3	0.0900	0.1200	0.0750	0.0550	0.0300
4	0.0800	0.1000	0.0650	0.0500	0.0250
5	0.0700	0.0900	0.0500	0.0475	0.0250
6	0.0600	0.0800	0.0400	0.0450	0.0150
7	0.0550	0.0700	0.0300	0.0425	0.0150
8	0.0475	0.0600	0.0275	0.0375	0.0150
9	0.0400	0.0450	0.0250	0.0325	0.0150
10	0.0350	0.0425	0.0250	0.0300	0.0150
11	0.0325	0.0400	0.0225	0.0275	0.0150
12	0.0300	0.0375	0.0225	0.0250	0.0050
13	0.0300	0.0350	0.0200	0.0225	0.0050
14	0.0300	0.0300	0.0200	0.0200	0.0050
15	0.0275	0.0250	0.0175	0.0175	0.0050
16	0.0275	0.0225	0.0175	0.0150	0.0050
17	0.0275	0.0200	0.0175	0.0150	0.0050
18	0.0250	0.0175	0.0150	0.0125	0.0050
19	0.0250	0.0175	0.0050	0.0100	0.0050
20	0.0200	0.0175	0.0050	0.0000	0.0000
21	0.0200	0.0150	0.0050	0.0000	0.0000
22	0.0175	0.0125	0.0050	0.0000	0.0000
23	0.0150	0.0100	0.0050	0.0000	0.0000
24	0.0125	0.0075	0.0050	0.0000	0.0000
25+	0.0000	0.0000	0.0000	0.0000	0.0000

4. Termination rates (continued):

Active Female Members					
Years of Service					
Service	Local Government	Public Employees	Public Educators	Public Safety	Firefighters
0	0.2200	0.2500	0.1700	0.1000	0.0825
1	0.1800	0.2100	0.1600	0.0650	0.0350
2	0.1400	0.1700	0.1450	0.0600	0.0300
3	0.1200	0.1400	0.1250	0.0550	0.0300
4	0.1100	0.1100	0.1000	0.0500	0.0250
5	0.0975	0.0950	0.0850	0.0475	0.0250
6	0.0825	0.0825	0.0700	0.0450	0.0150
7	0.0750	0.0700	0.0550	0.0425	0.0150
8	0.0675	0.0650	0.0450	0.0375	0.0150
9	0.0625	0.0600	0.0400	0.0325	0.0150
10	0.0550	0.0550	0.0325	0.0300	0.0150
11	0.0475	0.0475	0.0275	0.0275	0.0150
12	0.0425	0.0450	0.0200	0.0250	0.0050
13	0.0400	0.0425	0.0200	0.0225	0.0050
14	0.0375	0.0375	0.0200	0.0200	0.0050
15	0.0350	0.0350	0.0200	0.0175	0.0050
16	0.0325	0.0300	0.0200	0.0150	0.0050
17	0.0300	0.0275	0.0180	0.0150	0.0050
18	0.0275	0.0275	0.0170	0.0125	0.0050
19	0.0250	0.0275	0.0160	0.0100	0.0050
20	0.0225	0.0275	0.0140	0.0000	0.0000
21	0.0200	0.0200	0.0130	0.0000	0.0000
22	0.0175	0.0150	0.0075	0.0000	0.0000
23	0.0150	0.0125	0.0075	0.0000	0.0000
24	0.0125	0.0100	0.0075	0.0000	0.0000
25+	0.0000	0.0000	0.0000	0.0000	0.0000

5. *Refund rates:*

Refund rates are the percentage of vested members electing to receive a refund of contributions upon termination of employment. This rate is only applied to members of the contributory systems; vested members in the noncontributory systems are assumed to defer their benefits until retirement, even if they have a contribution account from service prior to the establishment of the noncontributory system. The rate is a function of the member's sex, occupation and service. These rates are based on plan experience.

Males				
Service	Local Government	Public Employees	Public Educators	Public Safety & Firefighters ¹
0-3	100%	100%	100%	100%
4	75%	86%	75%	76%
5	73%	83%	73%	74%
6	70%	80%	70%	71%
7	67%	78%	66%	69%
8	65%	77%	61%	67%
9	62%	75%	57%	65%
10	61%	73%	54%	57%
11	59%	70%	50%	50%
12	58%	68%	47%	42%
13	55%	66%	42%	40%
14	52%	65%	38%	37%
15	49%	63%	33%	35%
16	48%	61%	28%	33%
17	46%	60%	22%	31%
18	45%	58%	17%	29%
19	23%	29%	09%	15%
20 or more	00%	00%	00%	00%

¹ Male and female members combined.

5. *Refund rates (continued):*

Females			
Service	Local Government	Public Employees	Public Educators
0-3	100%	100%	100%
4	77%	80%	65%
5	75%	79%	64%
6	72%	77%	62%
7	69%	74%	61%
8	67%	71%	59%
9	64%	68%	58%
10	61%	64%	53%
11	57%	60%	48%
12	54%	56%	43%
13	49%	55%	39%
14	45%	53%	36%
15	40%	52%	32%
16	35%	49%	27%
17	30%	46%	21%
18	25%	43%	16%
19	13%	22%	08%
20 or more	00%	00%	00%

6. *Retirement rates:*

Retirement rates are a function of the member’s age, sex and occupation (and service in the case of Firefighters, Public Safety and Judges). Rates are based on plan experience. Rates are applied only at ages at which the member is eligible for a reduced or unreduced retirement benefit. Members are assumed to retire no later than age 75 (age 70 for the public safety, firefighter and judges systems). Sample rates are shown below.

Tier I - Local Government				
Age	Male		Female	
	Reduced	Unreduced	Reduced	Unreduced
50	0.040	0.180	0.040	0.250
51	0.040	0.180	0.040	0.250
52	0.040	0.180	0.040	0.250
53	0.040	0.180	0.040	0.250
54	0.040	0.180	0.040	0.250
55	0.050	0.180	0.040	0.300
56	0.050	0.180	0.040	0.300
57	0.050	0.180	0.040	0.300
58	0.060	0.180	0.040	0.300
59	0.060	0.180	0.040	0.300
60	0.060	0.250	0.100	0.400
61	0.060	0.250	0.100	0.400
62	0.130	0.300	0.130	0.400
63	0.160	0.300	0.160	0.400
64	0.160	0.300	0.160	0.400
65	N/A	0.300	N/A	0.300
66	N/A	0.300	N/A	0.300
67	N/A	0.200	N/A	0.200
68	N/A	0.200	N/A	0.200
69	N/A	0.200	N/A	0.200
70	N/A	0.200	N/A	0.200
71	N/A	0.150	N/A	0.150
72	N/A	0.150	N/A	0.150
73	N/A	0.150	N/A	0.150
74	N/A	0.150	N/A	0.150
75+	N/A	1.000	N/A	1.000

6. Retirement rates (continued):

Tier II - Local Government				
Age	Male		Female	
	Reduced	Unreduced ¹	Reduced	Unreduced ¹
50	N/A	0.180	N/A	0.250
51	N/A	0.180	N/A	0.250
52	N/A	0.180	N/A	0.250
53	N/A	0.180	N/A	0.250
54	N/A	0.180	N/A	0.250
55	N/A	0.180	N/A	0.300
56	N/A	0.180	N/A	0.300
57	N/A	0.180	N/A	0.300
58	N/A	0.180	N/A	0.300
59	N/A	0.180	N/A	0.300
60	0.020	0.250	0.020	0.400
61	0.040	0.250	0.040	0.400
62	0.060	0.300	0.060	0.400
63	0.080	0.300	0.080	0.400
64	0.100	0.300	0.100	0.400
65	N/A	0.300	N/A	0.300
66	N/A	0.300	N/A	0.300
67	N/A	0.200	N/A	0.200
68	N/A	0.200	N/A	0.200
69	N/A	0.200	N/A	0.200
70	N/A	0.200	N/A	0.200
71	N/A	0.150	N/A	0.150
72	N/A	0.150	N/A	0.150
73	N/A	0.150	N/A	0.150
74	N/A	0.150	N/A	0.150
75+	N/A	1.000	N/A	1.000

¹ The retirement rate at the age the member is first eligible for an unreduced retirement benefit prior to the age of 65 is increased by 30%.

6. Retirement rates (continued):

Tier I - Public Employees				
Age	Male		Female	
	Reduced	Unreduced	Reduced	Unreduced
50	0.040	0.160	0.050	0.220
51	0.040	0.160	0.050	0.220
52	0.040	0.160	0.050	0.220
53	0.040	0.160	0.050	0.220
54	0.040	0.160	0.050	0.220
55	0.040	0.180	0.050	0.220
56	0.040	0.180	0.050	0.220
57	0.040	0.180	0.050	0.220
58	0.060	0.180	0.050	0.220
59	0.060	0.180	0.050	0.220
60	0.100	0.230	0.130	0.320
61	0.100	0.230	0.130	0.320
62	0.150	0.350	0.200	0.320
63	0.150	0.300	0.200	0.320
64	0.150	0.300	0.200	0.320
65	N/A	0.300	N/A	0.320
66	N/A	0.300	N/A	0.320
67	N/A	0.250	N/A	0.250
68	N/A	0.250	N/A	0.250
69	N/A	0.200	N/A	0.250
70	N/A	0.200	N/A	0.250
71	N/A	0.150	N/A	0.150
72	N/A	0.150	N/A	0.150
73	N/A	0.150	N/A	0.150
74	N/A	0.150	N/A	0.150
75+	N/A	1.000	N/A	1.000

6. Retirement rates (continued):

Tier II - Public Employees				
Age	Male		Female	
	Reduced	Unreduced ¹	Reduced	Unreduced ¹
50	N/A	0.160	N/A	0.220
51	N/A	0.160	N/A	0.220
52	N/A	0.160	N/A	0.220
53	N/A	0.160	N/A	0.220
54	N/A	0.160	N/A	0.220
55	N/A	0.180	N/A	0.220
56	N/A	0.180	N/A	0.220
57	N/A	0.180	N/A	0.220
58	N/A	0.180	N/A	0.220
59	N/A	0.180	N/A	0.220
60	0.020	0.230	0.020	0.320
61	0.040	0.230	0.040	0.320
62	0.060	0.350	0.060	0.320
63	0.080	0.300	0.080	0.320
64	0.100	0.300	0.100	0.320
65	N/A	0.300	N/A	0.320
66	N/A	0.300	N/A	0.320
67	N/A	0.250	N/A	0.250
68	N/A	0.250	N/A	0.250
69	N/A	0.200	N/A	0.250
70	N/A	0.200	N/A	0.250
71	N/A	0.150	N/A	0.150
72	N/A	0.150	N/A	0.150
73	N/A	0.150	N/A	0.150
74	N/A	0.150	N/A	0.150
75+	N/A	1.000	N/A	1.000

¹ The retirement rate at the age the member is first eligible for an unreduced retirement benefit prior to the age of 65 is increased by 30%.

6. Retirement rates (continued):

Tier I - Public Educators				
Age	Male		Female	
	Reduced	Unreduced	Reduced	Unreduced
50	0.050	0.200	0.050	0.250
51	0.050	0.200	0.050	0.250
52	0.050	0.200	0.050	0.250
53	0.050	0.200	0.050	0.250
54	0.050	0.200	0.050	0.250
55	0.050	0.200	0.050	0.250
56	0.050	0.200	0.075	0.250
57	0.050	0.200	0.075	0.250
58	0.075	0.200	0.075	0.275
59	0.075	0.250	0.075	0.275
60	0.100	0.275	0.100	0.350
61	0.150	0.275	0.150	0.350
62	0.200	0.350	0.300	0.350
63	0.150	0.350	0.250	0.350
64	0.150	0.350	0.150	0.350
65	N/A	0.350	N/A	0.350
66	N/A	0.275	N/A	0.350
67	N/A	0.275	N/A	0.250
68	N/A	0.275	N/A	0.250
69	N/A	0.275	N/A	0.250
70	N/A	0.200	N/A	0.200
71	N/A	0.200	N/A	0.200
72	N/A	0.200	N/A	0.200
73	N/A	0.200	N/A	0.200
74	N/A	0.200	N/A	0.200
75+	N/A	1.000	N/A	1.000

6. Retirement rates (continued):

Tier II - Public Educators				
Age	Male		Female	
	Reduced	Unreduced ¹	Reduced	Unreduced ¹
50	N/A	0.200	N/A	0.250
51	N/A	0.200	N/A	0.250
52	N/A	0.200	N/A	0.250
53	N/A	0.200	N/A	0.250
54	N/A	0.200	N/A	0.250
55	N/A	0.200	N/A	0.250
56	N/A	0.200	N/A	0.250
57	N/A	0.200	N/A	0.250
58	N/A	0.200	N/A	0.275
59	N/A	0.250	N/A	0.275
60	0.020	0.275	0.020	0.350
61	0.040	0.275	0.040	0.350
62	0.060	0.350	0.060	0.350
63	0.080	0.350	0.080	0.350
64	0.100	0.350	0.100	0.350
65	N/A	0.350	N/A	0.350
66	N/A	0.275	N/A	0.350
67	N/A	0.275	N/A	0.250
68	N/A	0.275	N/A	0.250
69	N/A	0.275	N/A	0.250
70	N/A	0.200	N/A	0.200
71	N/A	0.200	N/A	0.200
72	N/A	0.200	N/A	0.200
73	N/A	0.200	N/A	0.200
74	N/A	0.200	N/A	0.200
75+	N/A	1.000	N/A	1.000

¹ The retirement rate at the age the member is first eligible for an unreduced retirement benefit prior to the age of 65 is increased by 30%.

6. Retirement rates (continued):

Tier I - Public Safety (Unisex)				Tier I - Firefighters (Unisex)	
Age	Years of Service			Years of Service	
	0 – 19	20 – 29	30+	0 – 29	30+
40-44	0.00	0.180	0.200	0.150	0.160
45	0.00	0.180	0.200	0.150	0.160
46	0.00	0.180	0.200	0.150	0.160
47	0.00	0.180	0.200	0.080	0.160
48	0.00	0.180	0.200	0.080	0.160
49	0.00	0.180	0.200	0.080	0.160
50	0.00	0.180	0.200	0.080	0.160
51	0.00	0.180	0.220	0.080	0.160
52	0.00	0.180	0.220	0.080	0.160
53	0.00	0.180	0.220	0.080	0.160
54	0.00	0.180	0.220	0.080	0.160
55	0.00	0.180	0.250	0.100	0.180
56	0.00	0.180	0.250	0.100	0.180
57	0.00	0.180	0.250	0.100	0.180
58	0.00	0.180	0.250	0.100	0.180
59	0.00	0.180	0.250	0.100	0.180
60	0.120	0.250	0.250	0.200	0.400
61	0.120	0.300	0.300	0.200	0.400
62	0.120	0.350	0.350	0.300	0.400
63	0.120	0.350	0.350	0.300	0.400
64	0.120	0.350	0.350	0.300	0.400
65	0.250	0.500	0.500	0.600	0.600
66	0.250	0.500	0.500	0.600	0.600
67	0.250	0.500	0.500	0.600	0.600
68	0.250	0.500	0.500	0.600	0.600
69	0.250	0.500	0.500	0.600	0.600
70+	1.000	1.000	1.000	1.000	1.000

6. Retirement rates (continued):

Age	Tier II - Public Safety (Unisex)			Tier II - Firefighters (Unisex)	
	Years of Service			Years of Service	
	0 - 19 ¹	20 - 29 ¹	30+	0 - 29 ¹	30+
40-44	N/A	0.108	N/A	0.090	N/A
45	N/A	0.108	0.120	0.090	0.096
46	N/A	0.108	0.120	0.090	0.096
47	N/A	0.108	0.120	0.048	0.096
48	N/A	0.108	0.120	0.048	0.096
49	N/A	0.108	0.120	0.048	0.096
50	N/A	0.108	0.120	0.048	0.096
51	N/A	0.108	0.132	0.048	0.096
52	N/A	0.108	0.132	0.048	0.096
53	N/A	0.108	0.132	0.048	0.096
54	N/A	0.108	0.132	0.048	0.096
55	N/A	0.108	0.150	0.060	0.108
56	N/A	0.108	0.150	0.060	0.108
57	N/A	0.108	0.150	0.060	0.108
58	N/A	0.108	0.150	0.060	0.108
59	N/A	0.108	0.150	0.060	0.108
60	0.120	0.250	0.250	0.200	0.400
61	0.120	0.300	0.300	0.200	0.400
62	0.120	0.350	0.350	0.300	0.400
63	0.120	0.350	0.350	0.300	0.400
64	0.120	0.350	0.350	0.300	0.400
65	0.250	0.500	0.500	0.600	0.600
66	0.250	0.500	0.500	0.600	0.600
67	0.250	0.500	0.500	0.600	0.600
68	0.250	0.500	0.500	0.600	0.600
69	0.250	0.500	0.500	0.600	0.600
70+	1.000	1.000	1.000	1.000	1.000

¹Retirement rates for reduced retirements are 50% of the rates shown in the table above.

6. Retirement rates (continued):

Judges - Males and Females			
Age	Years of Service		
	0 - 24	25 - 29	30+
45	N/A	0.100	0.200
46	N/A	0.100	0.200
47	N/A	0.100	0.200
48	N/A	0.100	0.200
49	N/A	0.100	0.200
50	N/A	0.100	0.200
51	N/A	0.100	0.200
52	N/A	0.100	0.200
53	N/A	0.100	0.200
54	N/A	0.100	0.200
55	N/A	0.100	0.200
56	N/A	0.100	0.200
57	N/A	0.100	0.200
58	N/A	0.100	0.200
59	N/A	0.100	0.200
60	N/A	0.100	0.200
61	N/A	0.100	0.200
62	0.150	0.200	0.200
63	0.150	0.200	0.200
64	0.150	0.200	0.200
65	0.150	0.200	0.200
66	0.150	0.200	0.200
67	0.150	0.200	0.200
68	0.150	0.200	0.200
69	0.150	0.200	0.200
70	1.000	1.000	1.000

7. *Salary increase rates:*

Salaries for individual members are assumed to increase each year, as a function of the member’s occupation and service. Rates are composed of a 2.75% inflation rate, a 1.00% general increase rate that applies to all, and a variable promotional/longevity component that is a function of the member’s service.

Active Male and Female Members - Local Government		
Years of Service	Annual Promotional/Longevity Rates of Increase	Total Annual Rate of Increase Including 3.75% Wage Inflation
0	6.00%	9.75%
1	4.50	8.25
2	3.75	7.50
3	3.25	7.00
4	2.75	6.50
5	2.50	6.25
6	2.25	6.00
7	2.00	5.75
8	1.75	5.50
9	1.75	5.50
10	1.50	5.25
11	1.25	5.00
12	1.25	5.00
13	1.00	4.75
14	1.00	4.75
15	1.00	4.75
16	0.75	4.50
17	0.75	4.50
18	0.75	4.50
19	0.75	4.50
20	0.50	4.25
21	0.25	4.00
22	0.25	4.00
23	0.00	3.75
24	0.00	3.75
25 or more	0.00	3.75

7. Salary increase rates (continued):

Active Male and Female Members - Public Employees		
Years of Service	Annual Promotional/Longevity Rates of Increase	Total Annual Rate of Increase Including 3.75% Wage Inflation
0	5.25%	9.00%
1	4.50	8.25
2	3.50	7.25
3	2.75	6.50
4	2.50	6.25
5	2.00	5.75
6	1.75	5.50
7	1.50	5.25
8	1.50	5.25
9	1.25	5.00
10	1.25	5.00
11	1.00	4.75
12	1.00	4.75
13	1.00	4.75
14	0.75	4.50
15	0.50	4.25
16	0.50	4.25
17	0.50	4.25
18	0.50	4.25
19	0.50	4.25
20	0.25	4.00
21	0.25	4.00
22	0.25	4.00
23	0.25	4.00
24	0.00	3.75
25 or more	0.00	3.75

7. Salary increase rates (continued):

Active Male and Female Members Public Educators		
Years of Service	Annual Promotional/Longevity Rates of Increase	Total Annual Rate of Increase Including 3.75% Wage Inflation
0	7.00%	10.75%
1	6.25	10.00
2	5.25	9.00
3	4.75	8.50
4	4.50	8.25
5	4.00	7.75
6	4.00	7.75
7	3.75	7.50
8	3.50	7.25
9	3.25	7.00
10	2.75	6.50
11	2.25	6.00
12	1.75	5.50
13	1.25	5.00
14	1.00	4.75
15	0.75	4.50
16	0.75	4.50
17	0.50	4.25
18	0.50	4.25
19	0.50	4.25
20	0.50	4.25
21	0.50	4.25
22	0.25	4.00
23	0.25	4.00
24	0.25	4.00
25 or more	0.00	3.75

7. *Salary increase rates (continued):*

Active Male and Female Members Public Safety		
Years of Service	Annual Promotional/Longevity Rates of Increase	Total Annual Rate of Increase Including 3.75% Wage Inflation
0	5.50%	9.25%
1	3.75	7.50
2	3.25	7.00
3	2.75	6.50
4	2.75	6.50
5	2.50	6.25
6	2.50	6.25
7	2.25	6.00
8	2.00	5.75
9	2.00	5.75
10	2.00	5.75
11	1.50	5.25
12	1.25	5.00
13	1.25	5.00
14	1.00	4.75
15	1.00	4.75
16	1.00	4.75
17	0.75	4.50
18	0.75	4.50
19	0.75	4.50
20	0.75	4.50
21	0.75	4.50
22	0.75	4.50
23	0.25	4.00
24	0.25	4.00
25 or more	0.00	3.75

7. *Salary increase rates (continued):*

Active Male and Female Members Firefighters		
Years of Service	Annual Promotional/Longevity Rates of Increase	Total Annual Rate Of Increase Including 3.75% Wage Inflation
0	6.00%	9.75%
1	5.50	9.25
2	5.25	9.00
3	5.00	8.75
4	4.75	8.50
5	4.50	8.25
6	4.50	8.25
7	4.00	7.75
8	3.75	7.50
9	3.50	7.25
10	3.00	6.75
11	2.25	6.00
12	1.75	5.50
13	1.75	5.50
14	1.75	5.50
15	1.25	5.00
16	1.25	5.00
17	1.00	4.75
18	1.00	4.75
19	0.75	4.50
20	0.75	4.50
21	0.50	4.25
22	0.25	4.00
23	0.00	3.75
24	0.00	3.75
25 or more	0.00	3.75

8. *Annuitant mortality rates (nondisabled retirees):*

All non-educator groups:

Male retirees: 100% of RP-2000 Combined Healthy for Males with White Collar adjustments, projected with Scale AA from 2000.

Female retirees: 120% of rates in a GRS table based on female teacher experience, projected with Scale AA from 2000.

Educator group:

Male retirees: 90% of rates in a GRS table based on male teacher experience, projected with Scale AA from 2000.

Female retirees: 107% of rates in a GRS table based on female teacher experience, projected with Scale AA from 2000.

Mortality Rates in Base Tables before Projection (Multipliers Applied)				
Age	Non-educators		Educators	
	Males	Females	Males	Females
50	0.001978	0.001843	0.002496	0.001644
55	0.003302	0.004522	0.004282	0.004032
60	0.005583	0.005660	0.004028	0.005047
65	0.011061	0.005232	0.005139	0.004665
70	0.019275	0.010756	0.013480	0.009590
75	0.033634	0.017066	0.022424	0.015218
80	0.059412	0.038077	0.044386	0.033952
85	0.104665	0.088752	0.088040	0.079137
90	0.178273	0.166303	0.154143	0.148287

The following table provides the life expectancy for individuals retiring in future years based on the assumption with full generational projection:

Life Expectancy for an Age 65 Retiree in Years					
Group	Year of Retirement				
	2015	2020	2025	2030	2035
Noneducators - Male	20.3	20.6	21.0	21.3	21.6
Noneducators - Female	22.2	22.3	22.5	22.7	22.9
Educators - Male	22.3	22.6	22.9	23.2	23.5
Educators - Female	23.0	23.2	23.3	23.5	23.7

9. *Disabled annuitant mortality rates:*

Males: 100% of the RP-2000 for Disabled Males, projected with Scale AA from 2000.

Females: 110% of the RP-2000 for Disabled females, projected with Scale AA from 2000.

Disabled Mortality Rates in Base Table before Projections (Multipliers Applied)		
Age	Males	Females
20	0.022571	0.008195
25	0.022571	0.008195
30	0.022571	0.008195
35	0.022571	0.008195
40	0.022571	0.008195
45	0.022571	0.008195
50	0.028975	0.012689
55	0.035442	0.018198
60	0.042042	0.024023
65	0.050174	0.030829
70	0.062583	0.041398
75	0.082067	0.057453
80	0.109372	0.079543
85	0.141603	0.110223
90	0.183408	0.154054

The following table provides the life expectancy for individuals retiring in future years based on the assumption with full generational projection:

Life Expectancy for an Age 65 Retiree in Years					
Gender	Year of Retirement				
	2015	2020	2025	2030	2035
Males	14.1	14.6	15.1	15.6	16.1
Females	16.1	16.4	16.7	16.9	17.2

10. *Actuarial cost method:*

The Entry Age Normal actuarial cost method is used. This method is designed to produce a relatively level funding pattern when expressed as a percent of pay.

First, the actuarial present value of all future expected benefits is determined for each member, including retired members, beneficiaries, inactive members and active members. This takes into account both the probability that a benefit will be paid at a given age and the time value of money. The sum of these amounts--the Present Value of Future Benefits (PVFB)--is then determined.

Next, the Entry Age Normal actuarial cost method is used to allocate the PVFB between the current year (the normal cost), prior years (the Actuarial Accrued Liability), and future years (future normal costs). The current and future normal costs are determined as a level percentage of pay, except that for the Legislators and Governors plan, which is not pay related, normal costs are determined as a level dollar amount.

A portion of the normal cost may be paid by employee contributions in which case the balance becomes the normal cost portion of the employer contribution rate.

The difference between the Actuarial Accrued Liability (the portion of the total actuarial present value of future benefits allocated to prior years) and the Actuarial Value of Assets is called the Unfunded Actuarial Accrued Liability (UAAL). This is funded over 25 years from January 1, 2009. (This period is closed, so as of January 1, 2013 the remaining amortization period is 21 years. The period will continue to decrease by one in each subsequent year, until the Board of Trustees modifies the method and period for amortizing the UAAL).

The total employer cost rate is the sum of (i) the normal cost rate, net of employee contributions if applicable, and (ii) the level percent-of-pay amortization of the UAAL. For the Judges' System and the Firefighters' System, certain specified revenues (court fees and a tax on fire insurance premiums, respectively) are used as an offset to the employer contribution rate each year, as described elsewhere in this report.

All contribution rates are based upon monthly payments of contributions.

11. *Actuarial value of assets:*

The actuarial value of assets is equal to the market value, adjusted for a five-year phase in of actual investment return in excess of (or less than) expected investment return. The actual return is calculated net of investment and administrative expenses, and the expected investment return is equal to the assumed investment return rate multiplied by the prior year's market value of assets, adjusted for contributions, benefits paid, and refunds. The actuarial value of assets is further adjusted, if necessary, so that it is not less than 75% of market value and not more than 125% of market value.

12. *Payroll growth rate:*

In determining the level percent of payroll amortization rate, payroll is assumed to grow annually at 3.50%. No allowance is made for future growth in the number of members.

13. *Marital status:*

All nonretired members are assumed to be married with no children. Female members are assumed to be three years younger than their spouses, while male members are assumed to be three years older than their spouses.

14. *Administrative and investment expenses:*

The assumed 7.50% investment return rate represents the anticipated net return after payment of all investment and administrative expenses. These expenses are assumed to be 0.35% of plan assets each year.

15. *Judges System:*

For the Judges System, no disability or withdrawal rates were used. Salaries are assumed to increase at 3.75% per year.

16. *Governors and Legislative Pension Plan:*

A 10% withdrawal rate is assumed regardless of age or service. No disability rates are used. No salary increase rate is used because the benefits do not reflect pay. Members are assumed to retire at the earlier of (i) age 65 with four years of service, or (ii) age 62 with 10 years of service. Normal cost and actuarial accrued liability are based on Level Dollar Entry Age Cost Method (not Level Percent of Pay).

17. *Interest Credited on Member Contribution Account Balances:*

In projecting member contribution account balances, we assume that the rate credited is 7.50% each year. (The actual rate is set by the Board of Trustees annually, based on investment performance.) Interest is not credited to account balances for members of the Firefighters Retirement System.

18. *Mortality Improvement:*

For post-retirement mortality, both healthy and disabled, we assume continuous (generational) mortality improvement according to Scale AA from a base year of 2000. Mortality improvement is ignored for the pre-retirement mortality assumption, since it would not have a material effect on the liabilities.

19. *LTD Benefit Protection Contracts:*

It is assumed that all members of the Tier I Public Employee Retirement Systems are covered by an LTD Benefit Protection Contract. LTD benefit protection contract coverage for the Tier II Hybrid Retirement Systems (Public Employees and Public Safety and Firefighters) is being valued for those members who are employed by a participating employer that elected to provide coverage to their workforce.

20. *Cost-of-living increases:*

Retirement benefits for all systems with a maximum 4.00% COLA are assumed to increase at 2.75% even though the maximum allowable rate is 4.00%. Retirement benefits for the funds with a maximum 2.50% COLA—e.g., some of the Public Safety funds—are assumed to increase at the maximum allowable rate of 2.50%.

For current retirees who have received cumulative COLAs less than the total of annual CPI increases since retirement, we assume higher COLAs, subject to the annual maximum, as long as the member has “banked” CPI increases left.

APPENDIX 2

**SUMMARY OF BENEFIT PROVISIONS FOR
PUBLIC EMPLOYEE RETIREMENT SYSTEMS
(CONTRIBUTORY AND NONCONTRIBUTORY)**

1. *Effective Date:* Contributory System - July 1, 1961.
Noncontributory System - July 1, 1986.
2. *Plan Year:* Twelve-month period ending December 31st.
3. *Administration:* The Systems are administered by a Board of Trustees (which also administers the other Utah Retirement Systems). The Board of Trustees is responsible for both administration of the Systems and investment of the fund assets.
4. *Type of Plan:* These are qualified governmental defined benefit retirement plans. Under GASB 25, they are considered to be cost-sharing multiple-employer plans.
5. *Eligibility:* These Systems cover eligible employees of the State of Utah, most local government employees, and most public education employees. Generally all employees are covered, except for those covered by another System--public safety employees, firefighters, judges, legislators, and higher education employees covered under TIAA-CREF. Eligible employees become participants immediately when hired, and are required to participate. The employer-selected plan determines whether new employees participate in the Contributory or Noncontributory System. Employees who were members of the Contributory System at the time their employer selected the Noncontributory System had an option to remain in the Contributory System. These Systems are closed to members hired on and after July 1, 2011.
6. *Employee Contributions:* Members of the Contributory System contribute 6.00% of salary per year. Employers may "pick-up" employee contributions under Section 414(h) of the Internal Revenue Code. No contributions are made by members of the Noncontributory System.
7. *Employer Contributions:* The current contribution rates differ between the Contributory and Noncontributory Systems, and also differ depending on whether the member is employed by a local government (Level B) or the State of Utah or a public school (Level A). Rates are set by the Board of Trustees, based upon the actuarial valuation report for the preceding year. The Funds participating in these systems are:
 - Fund 11 - Local Government Contributory
 - Fund 12 - State and School Contributory
 - Fund 15 - Local Government Noncontributory
 - Fund 16 - State and School Noncontributory
8. *Final Average Monthly Salary (FAMS):* The monthly average of the member's highest salaries preceding retirement. For the Contributory System a five-year average is used, while a three-year average is used for the Noncontributory System.

9. *Service Retirement (Unreduced):*

- a. Eligibility: A member may retire with an unreduced benefit at age 65 with four years of service or after 30 years of service if earlier.
- b. Monthly Benefit (Contributory): 2.00% times Final Average Monthly Salary (FAMS) times years of service earned since July 1, 1975, plus 1.25% of FAMS times service earned prior to July 1, 1975.
- c. Monthly Benefit (Noncontributory): 2.00% of Final Average Monthly Salary times years of service.
- d. Payment Form: Life annuity.

10. *Service Retirement (Reduced):*

- a. Eligibility: A member may retire with a reduced benefit upon attaining age 62 with 10 years of service or age 60 with 20 years of service. A member of the Noncontributory System may retire at any age after earning 25 years of service.
- b. Reduction: 3% per year that retirement is earlier than age 65. For Noncontributory System members retiring prior to age 60, actuarial reduction is applied to the 85% factor at age 60. The early retirement reduction factors are shown below:

Age	Factor	Age	Factor
64	97.00%	54	49.58%
63	94.00%	53	45.47%
62	91.00%	52	41.73%
61	88.00%	51	38.34%
60	85.00%	50	35.24%
59	77.49%	49	32.42%
58	70.73%	48	29.84%
57	64.62%	47	27.49%
56	59.10%	46	25.33%
55	54.11%	45	23.36%

- c. Payment Form: Life annuity.

11. *Disability Retirement:*

- a. Eligibility: Member must be eligible for retirement under the Disability Act and must not be eligible for a 30-year service retirement at time of disability.
- b. Monthly Benefits Payable Prior to Retirement: A separate fund established under the Disability Act provides benefits from the time of disability until the age specified in 49-21-403. Benefits from this separate fund are not covered by these Systems.
- c. Monthly Benefits Payable after Retirement: An unreduced service retirement benefit is payable. The member receives service credit for time while disabled (both for computing the benefit amount and for determining whether the member is eligible for an unreduced service retirement benefit). Final Average Monthly Salary is increased by the same factors used for automatic cost-of-living benefit increases. I.e., the FAMS is adjusted by a cost-of-living increase up to 4.0% per year (simple interest).
- d. Payment Form: Life annuity.
- e. Death while Disabled: A disabled member is treated as an active member for purposes of determining a death benefit for the period prior to retirement.

12. *Vesting and Refunds:*

- a. Eligibility: All members who are not vested are eligible for a refund when they terminate service. Members are vested after four years of service. Vested members may also elect to receive a refund in lieu of the deferred termination benefit described below. (Noncontributory System members hired after July 1, 1986, are ineligible for a refund.)
- b. Amount: The refund benefit is the accumulated value of the member's contributions plus interest credited by the fund. The amount of interest credited each year is set annually by the Board of Trustees.

13. *Deferred Termination Benefit:*

- a. Eligibility: Member must be vested (4 years of service) and must elect to leave his/her contributions on deposit.
- b. Monthly Benefit: Same as the unreduced or reduced service retirement benefit, based on service and FAMS at termination, and commencing once the member is eligible.
- c. Payment Form: Life annuity.
- d. Death Benefit: The beneficiary of an inactive member who dies is entitled to receive the benefit described in 14.2.a. and 2.b.

14. *Death while an Active Member:*
- a. Members will receive benefits 1. and 2. described below.
1. Death Benefit Insurance: A lump-sum payment that is equal to 75% of the member's highest annual salary.
- 2.a. In General: A refund of the member's accumulated contributions (with interest) is paid to the beneficiary of a deceased member.
- 2.b. Spousal Annuity: If the deceased member was married at the time of death and was either (i) eligible for reduced or unreduced service retirement, or (ii) had 25 years of service (15 years of service in the noncontributory system), the spouse may elect an annuity benefit in lieu of the refund benefit. The annuity is equal to the reduced or unreduced service retirement benefit payable as though Option 3 (a Joint and 100% Survivor annuity) were elected. If the member had 25 years of service or more, no reduction factor is applied in determining the service retirement benefit. If a member of the noncontributory system is not eligible for a retirement benefit and has less than 25 years of service, then the death benefit is equal to 1/3 of Option 3 benefit if the member has at least 15 and less than 20 years of service, and 2/3 of the Option 3 benefit if the member has at least 20 and less than 25 years of service.
15. *Optional Forms of Benefit*: The Systems permit members to elect from six forms of benefit at retirement. In each case the benefit amount is adjusted to be actuarially equivalent to the "Option 1" form. The six optional forms are:
- Option 1 - A life annuity with no benefits due following the member's death.
- Option 2 - Modified Cash Refund Annuity. A reduced annuity payable for the member's lifetime, plus a death benefit equal to the excess of the member's accumulated contributions (determined at retirement) over the sum of the member's annuity payments from retirement. (The annuity payments are that part of the original benefit derived from the member's own accumulated contributions.)
- Option 3 - Joint and 100% Survivor Annuity. An annuity payable as long as either the member or his/her spouse is living.
- Option 4 - Joint and 50% Survivor Annuity. An annuity payable during the member's lifetime, and after the member's death if the member's spouse is still living, an annuity to the spouse of 50% of the original benefit.
- Option 5 - Joint and 100% Pop-up Annuity. Same as Option 3, except that the benefit amount reverts to the Option 1 (life annuity) amount if the member's spouse predeceases the member.
- Option 6 - Joint and 50% Pop-up Annuity. Same as Option 4, except that the benefit amount reverts to the Option 1 (life annuity) amount if the member's spouse predeceases the member.

16. *Postretirement Death Benefit:* None, except as elected by the member. See Optional Forms of Benefit above.
17. *Postretirement Benefit Increases:* Benefits are increased annually to take into account changes in the cost of living, with a maximum annual increase of 4% of the original benefit (i.e., a maximum 4% simple interest increase). In years in which the cost of living increases more than 4%, the excess increase is accumulated and used in later years in which the cost-of-living increase is less than 4%. This calculation is made separately for each individual. In addition, a closed group of retirees also receives a second special increase amount paid as a level annuity under whichever form of payment was elected. This is the Restoration of Purchasing Power (ROPP) payment.
18. *3% Substantial Substitute:* All members whose service began before January 1, 1989, receive an additional annual payment equal to 3% of their benefit. These payments are made to offset the taxability of the retirement benefits under the State income tax provisions. Prior to July 1, 1995, this benefit was funded by annual appropriations made by the State on a pay-as-you go basis. Beginning July 1, 1995, this benefit is funded on an actuarial basis by increasing the employer contribution rate for those Funds which are funded by the State.

**SUMMARY OF BENEFIT PROVISIONS FOR
PUBLIC SAFETY RETIREMENT SYSTEMS
(CONTRIBUTORY AND NONCONTRIBUTORY)**

1. *Effective Date:* Contributory System - July 1, 1969.
Noncontributory System - July 1, 1989.
2. *Plan Year:* Twelve-month period ending December 31st.
3. *Administration:* The Systems are administered by a Board of Trustees (which also administers the other Utah Retirement Systems). The Board of Trustees is responsible for both administration of the Systems and investment of the fund assets.
4. *Type of Plan:* These are qualified governmental defined benefit retirement plans. Under GASB 25, they are considered to be a combination of agent and cost-sharing multiple-employer plans.
5. *Eligibility:* These Systems cover eligible public safety employees of the State of Utah and some local governments. Eligible employees become participants immediately when hired, and are required to participate. The employer-selected plan determines whether new employees participate in the Contributory or Noncontributory System. Employees who were members of the Contributory System at the time their employer selected the Noncontributory System had an option to remain in the Contributory System. These Systems are closed to members hired on and after July 1, 2011.
6. *Employee Contributions:* Members of the Contributory System contribute a percentage of salary, as shown below. Employers may "pick-up" employee contributions under Section 414(h) of the Internal Revenue Code. No contributions are made by members of the Noncontributory System. Rates in the Contributory System vary by employer as follows:

Fund 22 - State of Utah	12.29%
Fund 23 - Other Division A (2.5% COLA)	12.29%
Fund 77 - Other Division A (4.0% COLA)	12.29%
Fund 27 - Logan	11.13%
Fund 29 - Other Division B (2.5% COLA)	10.50%
Fund 74 - Other Division B (4.0% COLA)	10.50%

7. *Employer Contributions:* The current contribution rates differ between the Contributory and Noncontributory Systems, and also differ depending on which fund (employer or group of employers) the member belongs to. Rates are set by the Board of Trustees, based upon the actuarial valuation report for the preceding year. The Funds included in these Systems are:

Contributory System

Fund 22 - State of Utah (Div A)
Fund 23 - Other Division A (2.5% COLA)
Fund 77 - Other Division A (4.0% COLA)
Fund 27 - Logan (Div B)
Fund 29 - Other Division B (2.5% COLA)
Fund 74 - Other Division B (4.0% COLA)

Noncontributory System

Fund 42 - State of Utah (Div A)
Fund 43 - Other Division A (2.5% COLA)
Fund 75 - Other Division A (4.0% COLA)
Fund 44 - Salt Lake City (Div B)
Fund 45 - Ogden (Div B)
Fund 46 - Provo (Div B)
Fund 47 - Logan (Div B)
Fund 48 - Bountiful (Div A)
Fund 49 - Other Division B (2.5% COLA)
Fund 76 - Other Division B (4.0% COLA)

The division designation (A or B) distinguishes between those employers covered by Social Security (A) and those not covered (B). Some plan provisions differ depending on the member's division.

8. *Final Average Monthly Salary (FAMS):* The monthly average of the member's highest three salaries preceding retirement.
9. *Service Retirement:*
- Eligibility: A member may retire with an unreduced benefit at age 65 with four years of service or at age 60 with 10 years of service or at any age with 20 years of service.
 - Monthly Benefit: 2.50% of Final Average Monthly Salary (FAMS) times years of service up to 20 years, plus 2.00% of FAMS times years of service in excess of 20.
 - Payment Form: For married members benefits are paid as an automatic unreduced Joint and 65% Survivor Annuity. A life annuity is payable to unmarried members (although children's benefits may also be due following the member's death).

10. *Disability Retirement:*

- a. Eligibility: Member must be eligible for retirement under the Disability Act (or a substantially equivalent program) and must not be eligible for a 20-year service retirement at time of disability. Note that not all political subdivisions cover their members under a disability program.
- b. Monthly Benefits Payable Prior to Retirement: A separate fund established under the Disability Act (or an equivalent program) provides benefits from the time of disability until the age specified in 49-21-403. Benefits from this separate fund are not covered by these Systems.
- c. Monthly Benefits Payable after Retirement: An unreduced service retirement benefit is payable. The member receives service credit for time while disabled (both for computing the benefit amount and for determining whether the member is eligible for an unreduced service retirement benefit). Final Average Monthly Salary is increased by the same factors used for automatic cost-of-living benefit increases. I.e., the FAMS is adjusted by a cost-of-living increase up to 2.5% per year (up to 4% per year for the 4% COLA funds).
- d. Payment Form: Same as for Service Retirement.
- e. Death while Disabled: A disabled member is treated as an active member for purposes of determining a death benefit for the period prior to retirement.

11. *Vesting and Refunds:*

- a. Eligibility: All members who are not vested are eligible for a refund when they terminate service. Members are vested after four years of service. Vested members may also elect to receive a refund in lieu of the deferred termination benefit described below. (Noncontributory System members hired after July 1, 1989, are ineligible for a refund.)
- b. Amount: The refund benefit is the accumulated value of the member's contributions credited by the fund. Interest is credited on the member's contribution account, beginning July 1, 1996. The amount of interest credited each year is set annually by the Board of Trustees.

12. *Deferred Termination Benefit:*

- a. Eligibility: Member must be vested (4 years of service) and must elect to leave his/her contributions on deposit.
- b. Monthly Benefit: Same as the service retirement benefit, based on service and FAMS at retirement, and commencing once the member is eligible.
- c. Payment Form: Same as for service retirement.

- d. Death Benefit: The beneficiary of an inactive member who dies is entitled to receive a refund benefit (or \$500 if larger). The spouse of an inactive member with 20 years of service receives a monthly annuity equal to 50% of the service retirement benefit that would have been paid had the member died immediately prior to retirement. (An actuarial reduction factor is applied if the member was under age 50 at death.)
13. *Death while an Active Member (On Duty)*: If death occurs in the line of duty, the lump-sum and annuity benefits described below will be paid to the spouse. (The benefits are not applicable to unmarried members, although children's benefits may be due.)
- a. Lump-sum (Division A members): \$1,000.
- b. Annuity (Division A members): 30% of member's FAMS.*
- c. Lump-sum (Division B members): \$1,500.
- d. Annuity (Division B members): 37.5% of member's FAMS.
14. *Death of an Active Member (Off Duty)*: If death occurs from a cause not related to the member's duties, the lump-sum and annuity benefits described below will be paid to the spouse. (The benefits are not applicable to unmarried members, although children's benefits may be due.)
- a. Lump-sum (Division A members): If the member has less than 10 years of service, the benefit is \$1,000 or a refund benefit, whichever is larger. If the member has 10 or more years of service, the benefit is \$500.
- b. Annuity (Division A members): If the member has less than 10 years of service, no annuity is due. For members with 10 or more years of service, the benefit is 2% of FAMS per year of service, to a maximum of 30% of FAMS.*
- c. Lump-sum (Division B members): If the member does not have two years of service, the benefit is the sum of 50% of the member's salary plus a refund benefit. If the member has two or more years of service, the benefit is \$1,500.
- d. Annuity (Division B members): If the member has fewer than two years of service, no annuity is due. If the member has two or more years of service, the annuity is 37.5% of the member's FAMS.
- *(For members of the Noncontributory System, not less than the benefit payable to the surviving spouse if the member had retired the day before the member's date of death.)
15. *Optional Forms of Benefit*: Married members may elect an optional Joint & 75% Survivor option in lieu of the standard Joint & 65% option. The amount of the Joint & 75% Survivor option is determined actuarially.
16. *Postretirement Death Benefit*: None, except for survivor benefit applicable to married members.

17. *Postretirement Benefit Increases:* Benefits are increased annually to take into account changes in the cost of living. Most funds have a maximum annual increase of 2.50% of the original benefit (i.e., a maximum 2.50% simple interest increase). A window was opened in 2008 to allow employers to make an election to provide a 4.00% maximum COLA. If elected, the 4.00% maximum applies to both current and future annuitants. The legislation opening the window mandated that the State public safety members would receive the 4.00% maximum COLA. The window was originally scheduled to close at the end of 2009, but it was extended in 2009 to December 2012.

In years in which the cost of living increases more than the maximum COLA, the excess increase is accumulated and used in later years in which the cost-of-living increase is less than the maximum COLA. This calculation is made separately for each individual. In addition, a closed group of retirees also receives a second special increase amount paid as a level annuity under whichever form of payment is applicable. This is the Restoration of Purchasing Power (ROPP) payment.

The table below shows which funds provide the 2.5% maximum COLA and which ones provide the 4.0% maximum COLA:

2.50% Maximum COLA

Funds 23 & 43 - Other Division A
Fund 44 - Salt Lake City (Div B)
Fund 45 - Ogden (Div B)
Fund 46 - Provo (Div B)
Funds 27 & 47 - Logan (Div B)
Fund 48 - Bountiful (Div A)
Funds 29 & 49 - Other Division B

4.00% Maximum COLA

Funds 22 & 42 - State of Utah (Div A)
Funds 75 & 77 - Other Division A
Funds 74 & 76 - Other Division B

18. *3% Substantial Substitute:* All members whose service began before January 1, 1989, receive an additional annual payment equal to 3% of their benefit. These payments are made to offset the taxability of the retirement benefits under the State income tax provisions. Prior to July 1, 1995, this benefit was funded by annual appropriations made by the State on a pay-as-you go basis. Beginning July 1, 1995, this benefit is funded on an actuarial basis by increasing the employer contribution rate for those Funds which are funded by the State.

**SUMMARY OF BENEFIT PROVISIONS FOR
FIREFIGHTERS RETIREMENT SYSTEM**

1. *Effective Date:* July 1, 1971.
2. *Plan Year:* Twelve-month period ending December 31st.
3. *Administration:* The System is administered by a Board of Trustees (which also administers the other Utah Retirement Systems). The Board of Trustees is responsible for both administration of the System and investment of the fund assets.
4. *Type of Plan:* This is a qualified governmental defined benefit retirement plan. Under GASB 25, it is considered to be a cost-sharing multiple-employer plan.
5. *Eligibility:* This System covers eligible firefighters employed by participating local governments in Utah. Eligible employees become participants immediately when hired, and are required to participate. Employers are designated as either Division A (employers with Social Security coverage) or Division B (employers without Social Security coverage). Benefit provisions and contribution rates differ for members of different divisions. This System is closed to members hired on and after July 1, 2011.
6. *Employee Contributions:* Members contribute a percentage of salary, as shown below. Employers may "pick-up" employee contributions under Section 414(h) of the Internal Revenue Code.

Fund 31 - Division A 15.05%
Fund 32 - Division B 16.71%

Contribution rates shown may be reduced by expected income from a tax on fire insurance premiums.

7. *Employer Contributions:* The current employer contribution rates depend on the Fund. Division A covers employers covered by Social Security and Division B covers other employers. The contribution rates are set by the Board of Trustees, based on the actuarial valuation for the preceding year. Contribution rates are reduced by expected income from a tax on fire insurance premiums. The Funds in this System are:

Fund 31 - Division A
Fund 32 - Division B

8. *Final Average Monthly Salary (FAMS):* The monthly average of the member's highest three salaries preceding retirement.

9. *Service Retirement:*

- a. Eligibility: A member may retire with an unreduced benefit at age 65 with four years of service or at age 60 with 10 years of service or at any age with 20 years of service.
- b. Monthly Benefit: 2.50% of Final Average Monthly Salary (FAMS) times years of service up to 20 years, plus 2.00% of FAMS times years of service in excess of 20. There is a minimum benefit of \$500 per month.
- c. Payment Form: For married members benefits are paid as an automatic unreduced Joint and 75% Survivor Annuity. A life annuity is payable to unmarried members (although children's benefits may also be due following the member's death).

10. *Disability Retirement:*

- a. Eligibility: Member must have five or more years of service or the disability must be related to the member's duties. In addition, the member must not be eligible for a 20-year service retirement at time of disability.
- b. Monthly Benefits: 50% of FAMS.
- c. Payment Form: Benefits are payable as long as the member is disabled. Upon reaching 20 years of service, including time while disabled, or at age 65 if earlier, benefits are converted to a retirement benefit. There are special rules governing when benefits must be converted for members who become disabled after age 60.
- d. Death while Disabled: Upon the death of a disabled firefighter, the spouse shall receive 75% of the benefit currently being paid.

11. *Vesting and Refunds:*

- a. Eligibility: All members who are not vested are eligible for a refund when they terminate service. Members are vested after four years of service. Vested members may also elect to receive a refund in lieu of the deferred termination benefit described below.
- b. Amount: The refund benefit is the accumulated value of the member's contributions credited by the fund. Interest is not credited on member contributions.

12. *Deferred Termination Benefit:*

- a. Eligibility: Member must be vested (4 years of service) and must elect to leave his/her contributions on deposit.
- b. Monthly Benefit: Same as the service retirement benefit, based on service and FAMS at termination, and commencing once the member is eligible.
- c. Payment Form: Same as for service retirement.

- d. Death Benefit: The beneficiary of an unmarried inactive member who dies with 20 or more years of service prior to retirement is entitled to receive a refund benefit (or \$500 if larger). The spouse of an inactive member with 20 years of service receives a monthly annuity equal to 50% of the service retirement benefit that would have been paid had the member died immediately prior to retirement. (An actuarial reduction factor is applied if the member was under age 50 at death.) If the inactive member had less than 20 years of service, no death benefit is due.
13. *Death while an Active Member (On Duty)*: If death occurs in the line of duty, the lump-sum and annuity benefits described below will be paid to the spouse. (The benefits are not applicable to unmarried members, although children's benefits may be due.)
- a. Lump-sum (Division A members): \$1,500.
- b. Annuity (Division A members): 30% of member's FAMS. For members with more than 20 years of service, the annuity is 75% of the retirement benefit earned by the member as of his/her date of death.
- c. Lump-sum (Division B members): \$1,500.
- d. Annuity (Division B members): 37.5% of member's FAMS. For members with more than 20 years of service, the annuity is 75% of the retirement benefit earned by the member as of his/her date of death.
14. *Death of an Active Member (Off Duty)*: If death occurs from a cause not related to the member's duties, the lump-sum and annuity benefits described below will be paid to the spouse. (The benefits are not applicable to unmarried members, although children's benefits may be due.)
- a. Lump-sum (Division A members): If the member has less than 10 years of service, the benefit is \$1,000 or a refund benefit, whichever is larger. If the member has 10 or more years of service, the benefit is \$500.
- b. Annuity (Division A members): If the member has less than 10 years of service, no annuity is due. For members with 10 or more years of service, the benefit is 2% of FAMS per year of service, to a maximum of 30% of FAMS.
- c. Lump-sum (Division B members): If the member does not have five years of service, the benefit is the sum of 50% of the member's salary plus a refund benefit. If the member has five or more years of service, the benefit is \$1,500.
- d. Annuity (Division B members): If the member has fewer than five years of service, no annuity is due. If the member has five or more years of service, the annuity is 37.5% of the member's FAMS. For members with more than 20 years of service, the annuity is 75% of the retirement benefit earned by the member as of his/her date of death.
15. *Optional Forms of Benefit*: None.

16. *Postretirement Death Benefit:* None, except for survivor benefit applicable to married members.
17. *Postretirement Benefit Increases:* Benefits are increased annually to take into account changes in the cost of living, with a maximum annual increase of 4% of the original benefit (i.e., a maximum 4% simple interest increase). In years in which the cost of living increases more than 4%, the excess increase is accumulated and used in later years in which the cost-of-living increase is less than 4%. This calculation is made separately for each individual. In addition, a closed group of retirees also receives a second special increase amount paid as a level annuity under whichever form of payment is applicable. This is the Restoration of Purchasing Power (ROPP) payment.
18. *3% Substantial Substitute:* All members whose service began before January 1, 1989, receive an additional annual payment equal to 3% of their benefit. These payments are made to offset the taxability of the retirement benefits under the State income tax provisions. Prior to July 1, 1995, this benefit was funded by annual appropriations made by the State on a pay-as-you go basis. Beginning July 1, 1995, this benefit is funded on an actuarial basis by increasing the employer contribution rate for those Funds which are funded by the State.

SUMMARY OF BENEFIT PROVISIONS FOR JUDGES' NONCONTRIBUTORY RETIREMENT SYSTEM

1. *Effective Date:* July 1, 1963.
2. *Plan Year:* Twelve-month period ending December 31st.
3. *Administration:* The System is administered by a Board of Trustees (which also administers the other Utah Retirement Systems). The Board of Trustees is responsible for both administration of the System and investment of the fund assets.
4. *Type of Plan:* This is a qualified governmental defined benefit retirement plan. Under GASB 25, it is considered to be a single-employer plan.
5. *Eligibility:* This System covers judges of the State of Utah, including Supreme Court justices and appellate, district, circuit and juvenile court judges.
6. *Employee Contributions:* None. There are no longer any members in the Judges' Contributory Retirement System.
7. *Employer Contributions:* Fund 37 (Judges) has a contribution rate which is set by the Board of Trustees, based on the actuarial valuation for the preceding year. The rate is reduced by estimated court fees which are earmarked for this fund.
8. *Final Average Monthly Salary (FAMS):* The monthly average of the member's highest two salaries preceding retirement.
9. *Service Retirement (Unreduced):*
 - a. Eligibility: A member may retire with an unreduced benefit at age 70 with six years of service or after age 62 with 10 years of service or after 25 years of service.
 - b. Monthly Benefit: 5.00% times Final Average Monthly Salary (FAMS) times years of service up to 10, plus 2.25% of FAMS times years of service in excess of 10 but less than 20, plus 1.00% times FAMS times years of service in excess of 20. There is a minimum benefit equal to 110% of the formula benefit (but not greater than \$1,000 per month).
 - c. Payment Form: Married members receive an automatic, unreduced Joint and 65% Survivor annuity. Unmarried members receive a life annuity.

10. *Service Retirement (Reduced):*

- a. Eligibility: A member may retire with a reduced benefit upon attaining age 55 with 20 years of service.
- b. Reduction: An actuarial reduction from age 65. The reduction factors are shown in the following table:

Age	Factor	Age	Factor
64	90.31%	59	55.57%
63	81.71%	58	50.62%
62	74.05%	57	46.16%
61	67.20%	56	42.14%
60	61.07%	55	38.50%

- c. Payment Form: Same as for unreduced service retirement.

11. *Disability Retirement*: This System has no provisions applying to disability retirement.

12. *Vesting and Refunds*:

- a. Eligibility: All members who are not vested are eligible for a refund when they terminate service. Members are vested after six years of service. Vested members may also elect to receive a refund in lieu of the deferred termination benefit described below. (Although all judges are now members in the noncontributory system, some retain member contribution accounts from their participation in the Judges' Contributory Retirement System.)
- b. Amount: The refund benefit is the accumulated value of the member's contributions plus interest credited by the fund. The amount of interest credited each year is set annually by the Board of Trustees.

13. *Deferred Termination Benefit*:

- a. Eligibility: Member must be vested (6 years of service) and must elect to leave his/her contributions on deposit.
- b. Monthly Benefit: Same as the unreduced or reduced service retirement benefit, based on service and FAMS at termination, and commencing once the member is eligible.
- c. Payment Form: Same as for unreduced service retirement.
- d. Death Benefit: Same as for an active member.

14. *Death while an Active Member:* A refund of the member's accumulated contributions (with interest) is paid to the beneficiary of a deceased member. In addition, 65% of the member's FAMS (annualized) is paid to the spouse if the member was married. Alternatively, the spouse may waive these benefits and elect instead an annuity. The annuity is equal to 65% of the benefit determined using the unreduced service retirement formula, and based on current service and FAMS at the time of death.
15. *Optional Forms of Benefit:* The System permits married members to elect a reduced Joint and 75% Survivor annuity in lieu of the automatic Joint and 65% Survivor annuity. No other optional payment forms are available.
16. *Postretirement Death Benefit:* None, except for the Joint and Survivor annuities available to married members.
17. *Postretirement Benefit Increases:* Benefits are increased annually to take into account changes in the cost of living, with a maximum annual increase of 4% of the current benefit (i.e., a maximum 4% compound interest increase). In years in which the cost of living increases more than 4%, the excess increase is accumulated and used in later years in which the cost-of-living increase is less than 4%. This calculation is made separately for each individual. In addition, judges retired prior to July 1, 1983 received an increase of \$120 per month (\$60 for beneficiaries).
18. *3% Substantial Substitute:* All members whose service began before January 1, 1989, receive an additional annual payment equal to 3% of their benefit. These payments are made to offset the taxability of the retirement benefits under the State income tax provisions. Prior to July 1, 1995, this benefit was funded by annual appropriations made by the State on a pay-as-you go basis. Beginning July 1, 1995, this benefit is funded on an actuarial basis by increasing the employer contribution rate for those Funds which are funded by the State.

SUMMARY OF BENEFIT PROVISIONS FOR THE GOVERNORS AND LEGISLATIVE PENSION PLAN

1. *Effective Date:* July 1, 1967.
2. *Plan Year:* Twelve-month period ending December 31st.
3. *Administration:* The System is administered by a Board of Trustees (which also administers the other Utah Retirement Systems). The Board of Trustees is responsible for both administration of the System and investment of the fund assets.
4. *Type of Plan:* This is a qualified governmental defined benefit retirement plan. Under GASB 25, it is considered to be a single-employer plan.
5. *Eligibility:* This System covers state legislators with four or more years of service, and governors of the state who enter office before July 1, 2011.
6. *Employee Contributions:* None.
7. *Employer Contributions:* The state annually appropriates an actuarially determined contribution.
8. *Benefit base:* The benefit base is used to determine the benefits payable at retirement.
 - a. Legislators: The base was \$10.00 per month per year of service as of July 1, 1967. The base is increased 2% each six months after that date. As of January 1, 2013, the benefit base is therefore \$28.20.
 - b. Governors: The base was \$500.00 per month per term as of July 1, 1973. The base is increased 2% each six months after that date. As of January 1, 2013, the benefit base is therefore \$1,280.00.
 - c. Supplemental Benefit: An additional benefit of \$3.50 per month per year of service. This benefit is not indexed nor are COLAs granted on it. This benefit only applies to members of the System on March 1, 2000 and is effective March 1, 2000.
9. *Service Retirement (Unreduced):*
 - a. Eligibility: Age 65 with 4 years of service.
 - b. Monthly Benefit: Legislators receive the benefit base (see above) per year of service, while former governors receive the benefit base (see above) for each term served (maximum of two terms).
 - c. Payment Form: For married members, a Joint and 50% Survivor annuity. For unmarried members, a life annuity.

10. *Service Retirement (Reduced):*
 - a. Eligibility: A member may retire with a reduced benefit upon attaining age 62 with 10 years of service.
 - b. Reduction: 3% per year that retirement is prior to age 65.
 - c. Payment Form: Same as for unreduced service retirement.
11. *Disability Retirement*: This System has no provisions applying to disability retirement.
12. *Vesting and Refunds*: A vested member who made contributions in another System and withdraws them forfeits all benefits under this System.
13. *Deferred Termination Benefit*:
 - a. Eligibility: Same as for reduced or unreduced service retirement. The member must not have withdrawn his/her contributions under another System.
 - b. Monthly Benefit: Same as the unreduced or reduced service retirement benefit, based on service at termination, and commencing once the member is eligible.
 - c. Payment Form: Same as for unreduced service retirement.
 - d. Death Benefit: Same as for an active member.
14. *Death while an Active Member*:
 - a. Eligibility: Four years of service as a legislator or governor.
 - b. Monthly Benefit: 50% of the unreduced service retirement benefit that the member would have been entitled to upon reaching age 65 based on the current benefit base. Benefit is paid to surviving spouse only.
15. *Optional Forms of Benefit*: None.
16. *Postretirement Death Benefit*: None, except for the Joint and Survivor annuity available to married members.
17. *Postretirement Benefit Increases*: Benefits are increased annually to take into account changes in the cost of living, with a maximum annual increase of 4% of the original benefit (i.e., a maximum 4% simple interest increase). In years in which the cost of living increases more than 4%, the excess increase is accumulated and used in later years in which the cost-of-living increase is less than 4%. This calculation is made separately for each individual. Note that the supplemental \$3.50 per month per year of service benefit is not eligible for these increases.

18. *3% Substantial Substitute*: All members whose service began before January 1, 1989, receive an additional annual payment equal to 3% of their benefit. These payments are made to offset the taxability of the retirement benefits under the State income tax provisions. Prior to July 1, 1995, this benefit was funded by annual appropriations made by the State on a pay-as-you go basis. Beginning July 1, 1995, this benefit is funded on an actuarial basis by increasing the employer contribution rate for those Funds which are funded by the State.

SUMMARY OF BENEFIT PROVISIONS FOR TIER II PUBLIC EMPLOYEE HYBRID RETIREMENT SYSTEM

1. *Effective Date:* July 1, 2011.
2. *Plan Year:* Twelve-month period ending December 31st.
3. *Administration:* The Systems are administered by a Board of Trustees (which also administers the other Utah Retirement Systems). The Board of Trustees is responsible for both administration of the Systems and investment of the fund assets.
4. *Type of Plan:* This is a qualified governmental defined benefit retirement plan. Under GASB 25, it is considered to be a cost-sharing multiple-employer plan.
5. *Eligibility:* This System covers eligible employees (i.e. those employees first hired after June 30, 2011) of the State of Utah, most local government employees, and most public education employees. Generally all employees are covered, except for those covered by another System—public safety employees, firefighters, judges, legislators, and higher education employees covered under TIAA-CREF.

Eligible employees are required to make an election within their first 30 days after employment to participate in this Plan or to participate in the Tier II Defined Contribution System. This election is irrevocable beginning 1 year after employment.

6. *Employee Contributions:* Member contributions are required only when the certified contribution rate of the defined benefit portion of the Plan exceeds 10% in which case they must pay the excess. Employers may not elect to pay all or part of any required employee contributions.
7. *Employer Contributions:* Contribution rates are set by the Board of Trustees, based upon the actuarial valuation report for this preceding year, and the employers must pay up to 10% of employee compensation towards this rate. If the certified contribution rate is less than 10%, they must make a contribution to the member's 401(k) account equal to the difference. Finally, employers must pay the corresponding Tier I amortization rate on Tier II employees' compensation to be applied to the employer's corresponding Tier I System liability.
8. *Final Average Monthly Salary (FAMS):* The monthly average of the member's five highest years of annual compensation preceding retirement.
9. *Service Retirement (Unreduced):*
 - a. Eligibility: A member may retire with an unreduced benefit at age 65 with four years of service or after 35 years of service if earlier.
 - b. Monthly Benefit (Contributory): 1.50% times Final Average Monthly Salary (FAMS) times years of service.

c. Payment Form: Life annuity.

10. *Service Retirement (Reduced)*:

- a. Eligibility: A member may retire with a reduced benefit upon attaining age 62 with 10 years of service or age 60 with 20 years of service.
- b. Reduction: A full actuarial reduction is applied for each year of retirement prior to age 65 if a member has less than 35 years of service. The early retirement reduction factors are shown below:

Age	Factor	Age	Factor
64	90.51%	61	67.80%
63	82.07%	60	61.75%
62	74.54%		

c. Payment Form: Life annuity.

11. *Disability Retirement*:

- a. Eligibility: Member must be eligible for retirement under the Disability Act and must not be eligible for a 35-year service retirement at time of disability. Note that not all political subdivisions cover their members under a disability program or provide LTD benefit protection contracts covering their Tier II members.
- b. Monthly Benefits Payable Prior to Retirement: A separate fund established under the Disability Act provides benefits from the time of disability until the age specified in 49-21-403. Benefits from this separate fund are not covered by these Systems.
- c. Monthly Benefits Payable after Retirement:
1. Member is covered by an LTD benefit protection contract: An unreduced service retirement benefit is payable at eligibility for an unreduced retirement benefit. The member receives service credit for time while disabled (both for computing the benefit amount and for determining whether the member is eligible for an unreduced service retirement benefit). Final Average Monthly Salary is increased by the same factors used for automatic cost-of-living benefit increases. I.e., the FAMS is adjusted by a cost-of-living increase up to 2.5% per year (simple interest). Employers are required to contribute the full contribution rate on the imputed pay of the disabled member to the Retirement System while the member is disabled.
 2. Member is not covered by an LTD benefit protection contract: An unreduced service retirement benefit is payable at eligibility for an unreduced retirement benefit. The benefit is determined using the member's service and Final Average Monthly Salary as of the date of their disability. Employers do not make contributions to the retirement system on the imputed pay of their disabled members.
- d. Payment Form: Life annuity.

- e. Death while Disabled: A disabled member is treated as an active member for purposes of determining a death benefit for the period prior to retirement.
12. *Vesting and Refunds*:
- a. Eligibility: All members who are not vested are eligible for a refund when they terminate service. Members are vested after four years of service. Vested members may also elect to receive a refund in lieu of the deferred termination benefit described below.
- b. Amount: The refund benefit is the accumulated value of the member's contributions plus interest credited by the fund. The amount of interest credited each year is set annually by the Board of Trustees.
13. *Deferred Termination Benefit*:
- a. Eligibility: Member must be vested (4 years of service) and must elect to leave his/her contributions on deposit.
- b. Monthly Benefit: Same as the unreduced or reduced service retirement benefit, based on service and FAMS at termination, and commencing once the member is eligible.
- c. Payment Form: Life annuity.
- d. Death Benefit: The beneficiary of an inactive member who dies is entitled to receive a benefit as described in 14.2.a or 14.2.b below.
14. *Death while an Active Member*:
- a. Members will receive benefits 1. and 2. described below.
1. Death Benefit Insurance: A lump-sum payment that is equal to 75% of the member's highest annual salary.
- 2.a. In General: A refund of the member's accumulated contributions (with interest) is paid to the beneficiary of a deceased member.
- 2.b. Spousal Annuity: If the deceased member was married at the time of death and was either (i) eligible for reduced or unreduced service retirement, or (ii) had 25 years of service (15 years of service in the noncontributory system), the spouse may elect an annuity benefit in lieu of the refund benefit. The annuity is equal to the reduced or unreduced service retirement benefit payable as though Option 3 (a Joint and 100% Survivor annuity) were elected. If the member had 25 years of service or more, no reduction factor is applied in determining the service retirement benefit. If a member of the noncontributory system is not eligible for a retirement benefit and has less than 25 years of service, then the death benefit is equal to 1/3 of Option 3 benefit if the member has at least 15 and less than 20 years of service, and 2/3 of the Option 3 benefit if the member has at least 20 and less than 25 years of service.

15. *Optional Forms of Benefit:* The Systems permit members to elect from six forms of benefit at retirement. In each case the benefit amount is adjusted to be actuarially equivalent to the "Option 1" form. The six optional forms are:
- Option 1 - A life annuity with no benefits due following the member's death.
- Option 2 - Modified Cash Refund Annuity. A reduced annuity payable for the member's lifetime, plus a death benefit equal to the excess of the member's accumulated contributions (determined at retirement) over the sum of the member's annuity payments from retirement. (The annuity payments are that part of the original benefit derived from the member's own accumulated contributions.)
- Option 3 - Joint and 100% Survivor Annuity. An annuity payable as long as either the member or his/her spouse is living.
- Option 4 - Joint and 50% Survivor Annuity. An annuity payable during the member's lifetime, and after the member's death if the member's spouse is still living, an annuity to the spouse of 50% of the original benefit.
- Option 5 - Joint and 100% Pop-up Annuity. Same as Option 3, except that the benefit amount reverts to the Option 1 (life annuity) amount if the member's spouse predeceases the member.
- Option 6 - Joint and 50% Pop-up Annuity. Same as Option 4, except that the benefit amount reverts to the Option 1 (life annuity) amount if the member's spouse predeceases the member.
16. *Postretirement Death Benefit:* None, except as elected by the member. See Optional Forms of Benefit above.
17. *Postretirement Benefit Increases:* Benefits are increased annually to take into account changes in the cost of living, with a maximum annual increase of 2.5% of the original benefit (i.e., a maximum 2.5% simple interest increase). In years in which the cost of living increases more than 2.5%, the excess increase is accumulated and used in later years in which the cost-of-living increase is less than 2.5%. This calculation is made separately for each individual.

**SUMMARY OF BENEFIT PROVISIONS FOR
TIER II PUBLIC SAFETY AND FIREFIGHTERS HYBRID RETIREMENT SYSTEM**

1. *Effective Date:* July 1, 2011.
2. *Plan Year:* Twelve-month period ending December 31st.
3. *Administration:* The Systems are administered by a Board of Trustees (which also administers the other Utah Retirement Systems). The Board of Trustees is responsible for both administration of the Systems and investment of the fund assets.
4. *Type of Plan:* These are qualified governmental defined benefit retirement plans. Under GASB 25, it is considered to be a cost-sharing multiple-employer plan.
5. *Eligibility:* This System covers eligible public safety employees (i.e. those employees first hired after June 30, 2011) of the State of Utah as well as eligible public safety employees and firefighters employed by participating local governments.

Eligible employees are required to make an election within their first 30 days after employment to participate in this Plan or to participate in the Tier II Defined Contribution System. This election is irrevocable beginning 1 year after employment.

6. *Employee Contributions:* Member contributions are required only when the certified contribution rate of the defined benefit portion of the Plan exceeds 12% in which case they must pay the excess. Employers may not elect to pay all or part of required employee contributions.
7. *Employer Contributions:* Contribution rates are set by the Board of Trustees, based upon the actuarial valuation report for this preceding year, and the employers must pay up to 12% of employee compensation towards this rate. If the certified contribution rate is less than 12%, they must make a contribution to the member's 401(k) account equal to the difference. Finally, employers must pay the corresponding Tier I amortization rate on Tier II employees' compensation to be applied to the employer's corresponding Tier I System liability.
8. *Final Average Monthly Salary (FAMS):* The monthly average of the member's highest five salaries preceding retirement.
9. *Service Retirement:*
 - a. Eligibility: A member may retire with an unreduced benefit at age 65 with four years of service or at any age with 25 years of service.
 - b. Monthly Benefit: 1.50% of Final Average Monthly Salary (FAMS) times years of service.
 - c. Payment Form: Life annuity

10. *Service Retirement (Reduced):*

- a. Eligibility: A member may retire with a reduced benefit upon attaining age 62 with 10 years of service or age 60 with 20 years of service.
- b. Reduction: A full actuarial reduction is applied for each year of retirement prior to age 65 if a member has less than 25 years of service. The early retirement reduction factors are shown below:

Age	Factor	Age	Factor
64	90.21%	61	66.99%
63	81.55%	60	60.87%
62	73.85%		

11. *Disability Retirement:*

- a. Eligibility: Member must be eligible for retirement under the Disability Act (or a substantially equivalent program) and must not be eligible for a 25-year service retirement at time of disability. Note that not all political subdivisions cover their members under a disability program or provide LTD benefit protection contracts covering their Tier II members.
- b. Monthly Benefits Payable Prior to Retirement: A separate fund established under the Disability Act (or an equivalent program) provides benefits from the time of disability until the age specified in 49-21-403. Benefits from this separate fund are not covered by these Systems.
- c. Monthly Benefits Payable after Retirement:
 - 1. Member is covered by an LTD benefit protection contract: An unreduced service retirement benefit is payable at eligibility for an unreduced retirement benefit. The member receives service credit for time while disabled (both for computing the benefit amount and for determining whether the member is eligible for an unreduced service retirement benefit). Final Average Monthly Salary is increased by the same factors used for automatic cost-of-living benefit increases. I.e., the FAMS is adjusted by a cost-of-living increase up to 2.5% per year (simple interest). Employers are required to contribute the full contribution rate on the imputed pay of the disabled member to the Retirement System while the member is disabled.
 - 2. Member is not covered by an LTD benefit protection contract: An unreduced service retirement benefit is payable at eligibility for an unreduced retirement benefit. The benefit is determined using the member’s service and Final Average Monthly Salary as of the date of their disability. Employers do not make contributions to the retirement system on the imputed pay of their disabled members.
- d. Payment Form: Life annuity.

- e. Death while Disabled: A disabled member is treated as an active member for purposes of determining a death benefit for the period prior to retirement.
12. *Vesting and Refunds*:
- a. Eligibility: All members who are not vested are eligible for a refund when they terminate service. Members are vested after four years of service. Vested members may also elect to receive a refund in lieu of the deferred termination benefit described below.
 - b. Amount: The refund benefit is the accumulated value of the member's contributions credited by the fund. Interest is credited on the member's contribution account, and the amount of interest credited each year is set annually by the Board of Trustees.
13. *Deferred Termination Benefit*:
- a. Eligibility: Member must be vested (4 years of service) and must elect to leave his/her contributions on deposit.
 - b. Monthly Benefit: Same as the service retirement benefit, based on service and FAMS at retirement, and commencing once the member is eligible.
 - c. Payment Form: Life annuity.
 - d. Death Benefit: The beneficiary of an inactive member who dies is entitled to receive a benefit as described in 14.2.a or 14.2.b below.
14. *Death while an Active Member*: All members who die while an active member receive a lump-sum payment that is equal to 75% of the member's highest annual salary. Members also receive death benefits described below depending on whether their death was duty related or non-duty related.
- a. *Death while an Active Member (On Duty)*: If death occurs in the line of duty, the lump-sum and annuity benefits described below will be paid to the spouse. (The benefits are not applicable to unmarried members)
 - 1. Less than 20 years of service: \$1,000 lump sum payment plus an annuity equal to 30% of FAMS.
 - 2. 20 or more years of service: The option 1 benefit (life annuity) is calculated and paid to the spouse with no actuarial reduction.
 - b. *Death of an Active Member (Off Duty)*: If the deceased member was married at the time of death and had (i) 15 or more years of service or (ii) attained age 62 with 10 or more years of service or (iii) attained age 65 with 4 or more years of service, the spouse may elect an annuity benefit in lieu of the refund benefit. The annuity is equal to the reduced or unreduced service retirement benefit payable as though Option 3 (a Joint and 100% Survivor annuity) were elected. If the member had 25 years of service or more, no reduction factor is applied in determining the service retirement benefit (the "full

allowance”). If a member has 20 to 24 years of service but is not 60 or older, then the death benefit is equal to $\frac{2}{3}$ of the “full allowance”. If the member has at least 15 but less than 20 years of service and is below age 62, the benefit is $\frac{1}{3}$ of the “full allowance”. If the member is age 60 or older with at least 20 years of service, age 62 or older with at least 10 years of service, or age 65 with 4 or more years of service, the spouse will receive the Option 3 benefit with actuarial reductions.

15. *Optional Forms of Benefit:* The Systems permit members to elect from six forms of benefit at retirement. In each case the benefit amount is adjusted to be actuarially equivalent to the "Option 1" form. The six optional forms are:

Option 1 - A life annuity with no benefits due following the member's death.

Option 2 - Modified Cash Refund Annuity. A reduced annuity payable for the member's lifetime, plus a death benefit equal to the excess of the member's accumulated contributions (determined at retirement) over the sum of the member's annuity payments from retirement. (The annuity payments are that part of the original benefit derived from the member's own accumulated contributions.)

Option 3 - Joint and 100% Survivor Annuity. An annuity payable as long as either the member or his/her spouse is living.

Option 4 - Joint and 50% Survivor Annuity. An annuity payable during the member's lifetime, and after the member's death if the member's spouse is still living, an annuity to the spouse of 50% of the original benefit.

Option 5 - Joint and 100% Pop-up Annuity. Same as Option 3, except that the benefit amount reverts to the Option 1 (life annuity) amount if the member's spouse predeceases the member.

Option 6 - Joint and 50% Pop-up Annuity. Same as Option 4, except that the benefit amount reverts to the Option 1 (life annuity) amount if the member's spouse predeceases the member.

16. *Postretirement Death Benefit:* None, except as elected by the member. See Optional Forms of Benefit above.

17. *Postretirement Benefit Increases:* Benefits are increased annually to take into account changes in the cost of living. The maximum annual increase is 2.50% of the original benefit (i.e., a maximum 2.50% simple interest increase). However, in years in which the cost of living increases more than the maximum COLA, the excess increase is accumulated and used in later years in which the cost-of-living increase is less than the maximum COLA. This calculation is made separately for each individual.

APPENDIX 3

GLOSSARY

Actuarial Accrued Liability (AAL): That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of Future Plan Benefits which is not provided for by future Normal Costs. It is equal to the Actuarial Present Value of Future Plan Benefits minus the actuarial present value of future Normal Costs.

Actuarial Assumptions: Assumptions as to future experience under the Fund. These include assumptions about the occurrence of future events affecting costs or liabilities, such as:

- mortality, withdrawal, disablement, and retirement;
- future increases in salary;
- future rates of investment earnings and future investment and administrative expenses;
- characteristics of members not specified in the data, such as marital status;
- characteristics of future members;
- future elections made by members; and
- other relevant items.

Actuarial Cost Method or Funding Method: A procedure for allocating the Actuarial Present Value of Future Benefits to various time periods; a method used to determine the Normal Cost and the Actuarial Accrued Liability. These items are used to determine the ARC.

Actuarial Gain or Actuarial Loss: A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two Actuarial Valuation dates. 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 Accrued Liabilities emerge which may be the same as forecasted, or may be larger or smaller than projected. Actuarial gains are due to favorable experience, e.g., the Fund'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 decrease the calculated contribution rates while actuarial losses will increase the calculated contribution rates.

Actuarially Equivalent: Of equal actuarial present value, determined as of a given date and based on a given set of Actuarial Assumptions.

Actuarial Present Value (APV): The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. For purposes of this standard, each such amount or series of amounts is:

- a. adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.)
- b. multiplied by the probability of the occurrence of an event (such as survival, death, disability, termination of employment, etc.) on which the payment is conditioned, and
- c. discounted according to an assumed rate (or rates) of return to reflect the time value of money.

Actuarial Present Value of Future Plan Benefits: The Actuarial Present Value of those benefit amounts which are expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age and past and anticipated future compensation and service credits. The Actuarial Present Value of Future Plan Benefits includes the liabilities for active members, retired members, beneficiaries receiving benefits, and inactive, nonretired members either entitled to a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would be provide sufficient assets to pay all projected benefits and expenses when due.

Actuarial Valuation: The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan. An Actuarial valuation for a governmental retirement system typically also includes calculations of items needed for compliance with GASB 25, such as the funded ratio and the ARC.

Actuarial Value of Assets or Valuation Assets: The value of the Fund's assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets, but commonly actuaries use a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the ARC.

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.

Amortization Method: A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the Amortization payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the stream of payments increases at the assumed rate at which total covered payroll of all active members will increase.

Amortization Payment: That portion of the pension plan contribution or ARC which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.

Annual Required Contribution (ARC): The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under GASB 25. The ARC consists of the Employer Normal Cost and the Amortization Payment

Closed Amortization Period: A specific number of years that is counted down by one each year, and therefore declines to zero with the passage of time. For example if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc. See Funding Period and Open Amortization Period.

Decrements: Those causes/events due to which a member's status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or termination.

Defined Benefit Plan: A retirement plan that is not a Defined Contribution Plan. Typically a defined benefit plan is one in which benefits are defined by a formula applied to the member's compensation and/or years of service.

Defined Contribution Plan: A retirement plan, such as a 401(k) plan, a 403(b) plan, or a 457 plan, in which the contributions to the plan are assigned to an account for each member, and the plan's earnings are allocated to each account, and each member's benefits are a direct function of the account balance.

Employer Normal Cost: The portion of the Normal Cost to be paid by the employers. This is equal to the Normal Cost less expected member contributions.

Experience Study: A periodic review and analysis of the actual experience of the Fund 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.

Funded Ratio: The ratio of the actuarial value of assets (AVA) to the actuarial accrued liability (AAL). Plans sometimes calculate a market funded ratio, using the market value of assets (MVA), rather than the AVA, although GASB 25 reporting requires the use of the AVA.

Funding Period or Amortization Period: The term "Funding Period" is used in two ways. In the first sense, it is the period used in calculating the Amortization Payment as a component of the ARC. This funding period is chosen by the Board of Trustees. In the second sense, it is a calculated item: the number of years in the future that will theoretically be required to amortize (i.e., pay off or eliminate) the Unfunded Actuarial Accrued Liability, based on the statutory employer contribution rate, and assuming no future actuarial gains or losses.

GASB: Governmental Accounting Standards Board.

GASB 25 and **GASB 27**: Governmental Accounting Standards Board Statements No. 25 and No. 27. These are the governmental accounting standards that set the accounting rules for public retirement systems and the employers that sponsor or contribute to them. Statement No. 27 sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 25 sets the rules for the systems themselves.

Normal Cost: That portion of the Actuarial Present Value of pension plan benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method. Any payment in respect of an Unfunded Actuarial Accrued Liability is not part of Normal Cost (see Amortization Payment). For pension plan benefits which are provided in part by employee contributions, Normal Cost refers to the total of employee contributions and employer Normal Cost unless otherwise specifically stated. Under the entry age normal cost method, the Normal Cost is intended to be the level cost (when expressed as a percentage of pay) needed to fund the benefits of a member from hire until ultimate termination, death, disability or retirement.

Open Amortization Period: An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. In other words, if the initial period is set as 30 years, the same 30-year period is used in determining the Amortization Period each year. In theory, if an Open Amortization Period is used to amortize the Unfunded Actuarial Accrued Liability, the UAAL will never completely disappear, but will become smaller each year, either as a dollar amount or in relation to covered payroll.

Unfunded Actuarial Accrued Liability: The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. This value may be negative in which case it may be expressed as a negative Unfunded Actuarial Accrued Liability, also called the Funding Surplus.

Valuation Date or Actuarial Valuation Date: The date as of which the value of assets is determined and as of which the Actuarial Present Value of Future Plan Benefits is determined. The expected benefits to be paid in the future are discounted to this date.