

UTAH RETIREMENT SYSTEMS
ACTUARIAL VALUATION REPORT
AS OF JANUARY 1, 2010

August 16, 2010

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, 2010

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. Valuations are prepared annually as of January 1, the first day of the URS plan year.

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. I.e., the rates determined by this January 1, 2010 actuarial valuation will be used by the Board when certifying the employer contribution rates for the year beginning July 1, 2011 and ending June 30, 2012. 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, currently 4.00%. The 25-year amortization period is measured from January 1, 2009, so 24 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) to 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. However, for almost all funds, the actuarially-determined contribution rates were larger than the rates being paid in FY 2011.

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 86.6% to 85.7%. This decrease was primarily due to the recognition of an additional 20% of the extraordinary investment loss that occurred in 2008. (The actuarial value of assets spreads the recognition of asset losses over five years.) Absent favorable experience, we expect the funded ratio will continue to decrease for the next three years as the rest of the 2008 investment loss is recognized in the development of the actuarial value of assets.

If market value had been used in the calculation instead of actuarial value, the aggregate funded ratio for all funds combined would have been 73.0%, compared to 69.3% in the prior year. The increase in funded ratio on a market value basis is due to favorable experience with both the assets and liabilities. In particular, the investment return during 2009 on a market value basis was 13.2%, which provided \$856 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, 2010, or which were adopted by the end of the 2010 legislative session and are effective on or before July 1, 2011. No changes were reflected from the prior valuation, except for the election of the optional 4.00% COLA by some public safety units and the removal of the benefit maximums for Public Safety, Firefighters and Judges.

SB 19 was passed during the 2008 legislative session. This law opened a window to allow employers of the Public Safety Retirement Systems to adopt a 4% maximum COLA in lieu of the current 2.5% maximum COLA. Adoption of the 4% maximum COLA was mandatory for the State of Utah. This window for making the election will close in December 2012. This legislation was reflected in the valuation only for those units that made the election by December 31, 2009. Supplemental information will be provided to URS so that URS can adjust the contribution rates for employers electing the 4% COLA during 2010 or later.

The New Public Employees' Tier II Contributory Retirement Act (SB 63) was passed during the 2010 legislative session. This law will close the current retirement systems (except for the Judges

Retirement System) to new members effective June 30, 2011. It creates a new retirement benefit structure (Tier II) for all employees hired after that date. Employers will continue to contribute the amortization rate to the current systems on the pay for Tier II members. Therefore, SB 63 did not affect the benefits provided to current URS members, and it creates a mechanism for ensuring that the UAAL is amortized over the payroll for both current and Tier II members. Therefore, this law had no effect on this actuarial valuation.

Under Governmental Accounting Standards Board Statement No. 25 (GASB 25), when a plan is closed to new members, the amortization charge should be determined based on the closed group's pay or as fixed dollar payments, rather than as payments which are level as a percentage of increasing payroll. However, because the plan will continue to receive amortization payments from the employers of Tier II members, i.e., based on the payroll for an open group of current and future employees, not the closed group of current members, we believe it is appropriate to continue to use a level-payroll amortization of the UAAL.

In addition, SB 43 was enacted in 2010. This bill changed the eligibility and benefits for retirees who return to work. We believe this legislation will, by changing future retirement patterns, reduce the cost of the retirement plans in the future. However, the effects of this part of the legislation were not measurable in this valuation, and thus had no impact on the calculated liabilities and contribution rates. SB 43 also removed, for retirements on or after July 1, 2010, the maximum benefit caps for the retirement formulas of Public Safety, Firefighters and Judges, which is reflected herein.

No other legislation has been enacted since the last valuation that materially affects the benefits or contributions of URS.

ASSUMPTIONS AND METHODS

The current actuarial assumptions and methods are the same as used for the prior valuation.

The Board, in consultation with the actuary, sets the actuarial assumptions and methods used in the valuation. Current Board policy is to have the actuary perform an experience study every three years. In connection with the appropriate valuation, the actuary conducts a thorough review of plan experience for the preceding five years, and then makes recommendations to the Board. The last experience study was prepared in 2008, and the recommended assumptions and methods were adopted effective January 1, 2008. The next experience analysis is scheduled for 2011, in conjunction with next year's actuarial valuation.

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 recommended assumptions are internally consistent and are reasonably 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, 2009 by the URS staff. We did not audit this data, but we did apply a number of tests to the data, and we concluded that it was reasonable and consistent with the prior year's data. The staff also supplied asset information as of December 31, 2009.

CERTIFICATION

We certify that the information presented herein is accurate and fairly portrays the actuarial position of URS as of January 1, 2010.

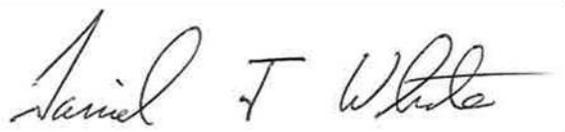
All of our work conforms with generally accepted actuarial principles and practices and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, our calculations also comply with the requirements of Utah state law and, where applicable, the Internal Revenue Code,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

The undersigned are independent actuaries and consultants. Mr. White and Mr. Conradi are Enrolled Actuaries and Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries. All three consultants below are experienced in performing valuations for large public retirement systems.

Sincerely,



Lewis Ward
Consultant



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



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SECTION I
EXECUTIVE SUMMARY

EXECUTIVE SUMMARY AND CONTRIBUTION REQUIREMENTS

- Contribution rates have increased, due to the recognition of an additional 20% of the 2008 investment loss, partially offset by liability gains, primarily lower salary increases.
 - For State & School divisions, an increase of 0.54% of payroll
 - Fund 16 – Noncontributory State & School increased from 16.17% to 16.71% of payroll
 - For Local Government, an increase of 0.40% of payroll
 - Larger increases for Judges and most of the Public Safety divisions
 - Increases in recommended contributions shown in column (8) on Exhibit 1(a)
 - An appropriation will be required again for the Governors and Legislative Plan
 - See Exhibit 16
 - The gross contribution rates for the two Firefighter funds increased, but the offset for fire insurance premium tax receipts also increased, and the net contribution rate for Fund 31 (Division A) went down, while the net rate for Fund 32 (Division B) is zero. The member contribution rates for Funds 31 & 32 are unchanged at 15.05% and 16.18%, respectively.
 - See Exhibits 2(b) and 2(c) for details about the offsets applied to contribution rates for Firefighters
- Total projected contributions for all funds combined will be \$836 million
 - “New money” of \$26 million needed, as shown on Exhibit 1(c)
 - “New money” excludes effect of expected payroll growth
- Exhibit 1(a) shows the new recommended contribution rates, and compares these to the rates certified for FY 2011 based on the last valuation, as adjusted for the SB 43 removal of service caps for Public Safety, Firefighters and Judges
 - Rates include funding for the 3% substantial substitute benefit, where applicable
 - Rates do not include the 1.50% 401(k) contribution
 - Rates shown for both for the Public Employees Contributory and Noncontributory Retirement Systems exclude the contribution for the group insurance death benefit. PEHP determines the contribution rate for this benefit.
 - Offsets for Firefighters System and Judges System are shown
 - Rates shown on this table are the recommended contribution rates, not 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 Exhibit 1(a), column 6 are for the twelve-month period beginning July 1, 2011 (FY 2012)
 - Rates may need to be adjusted for the effect of 2011 legislation, if material, and for the effect of the 4.0% COLA for any new employers that elect this benefit in 2010 or later.

- Exhibit 1(b) shows 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 2011 (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%
 - None of the funds currently has a funded ratio greater than 110%
 - The policy is applied to the gross rates for the 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 funds saw an increase in their actuarially calculated contribution rate, although the calculated rate for the 4% COLA Public Safety funds had small decreases
 - The increase in contribution rates was due to recognition of the investment losses incurred in 2008, partially offset by gains from lower than expected salary increases and other liability sources
 - For the Public Safety, Firefighters and Judges systems, the removal of the maximum service cap increased the contribution rates
- The benefit changes reflected in this valuation include:
 - The Public Safety 4% Maximum COLA for new units electing this benefit in 2009
 - Four new Public Safety units elected to provide the 4% maximum COLA
 - Assets were transferred to the new funds in proportion to the actuarial accrued liability (based on their liability under the 2.5% COLA)
 - SB 43 removed the cap on the maximum retirement benefit a retiree may receive from the Public Safety, Firefighters, and Judges systems. This change added 0.16% - 0.48% to the contribution rates for Public Safety units, and it added 1.38% to the contribution rate for Judges. For Firefighters, the increases to the gross contribution rates were 0.68% and 1.31% for Divisions A and B, respectively.
- There were no changes in the actuarial assumptions or methods for the 2010 valuation

- Amortization payments are based on:
 - 24-year amortization period (25 years from January 1, 2009)
 - Contributions determined as level percentage of pay (except for Governors and Legislators Plan, where amortization is in level payments)
 - Total payroll increases of 4.00% per year
 - We believe continued use of level-percent-of-pay amortization is appropriate, even though SB 63 closed the current systems to new members, because membership for contribution purposes was not closed
 - No future growth in the number of active members is taken into account
- The plan earned 13.2%, net of investment and administrative expenses, on a market-value basis during 2009
 - \$856 million increase between actual market value as of December 31, 2009 (\$17.7 billion) and expected market assets at this date (\$16.9 billion, based on 7.75% return assumption)
- Plan uses actuarial value to determine contribution rates and funded status
 - 5-year smoothing of net earnings above or below 7.75% assumption
 - Method reflects just 20% of investment gain or loss each year
 - Extraordinary investment losses incurred during 2008 are now 40% recognized, and the remaining 60% will be recognized over the next three years
 - Actuarial value is approximately 118% on a combined asset basis.
 - No funds are impacted by the 25% corridor on the actuarial value
 - 6.1% 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 noncontributory public safety funds experienced liability gains. Smaller than expected salary increases at the individual level were the primary source of the liability gain.
 - Impact on contribution rates shown on Exhibit 4(a) col. (5), and Exhibit 4(b) col. (4)
- The Governors and Legislative Plan was 95.3% funded as of January 1, 2010. We recommend a \$214,076 appropriation be made to the plan on or before June 30, 2012. 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 2010 is based on a funding period of 24 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 more fully 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 or at 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%. As of this valuation, none of the funds currently exceeds the 110% funded level. 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(b). Then the offset for the fire insurance premium tax and the court fees are applied, as shown in Exhibit 2(c).

The fire insurance premium tax continues to remain large enough to reduce the employer contribution rate to zero for Firefighter Division B (Fund 32), with the remaining offset being used to reduce the member contribution rates. The Division A member rate is unchanged at 15.05% and the Division B rate is unchanged at 16.18%.

The contribution rates set in this valuation will become effective for the twelve-month period beginning July 1, 2011 (FY 2012).

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 2012. Please see the discussion about the determination of the appropriation later in this section and the calculation of the appropriation on Exhibit 16.

FINANCIAL DATA AND EXPERIENCE

As of December 31, 2009, the retirement systems that are part of URS have a total market value of \$17.7 billion. This excludes assets of the 401(k) and 457 plans and other account-balance type 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 2009 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 \$3.56 million that is the Public Safety Retirees' Cost-Of-Living Increases Restricted Account. For valuation purposes, since this amount is to be used for all Public Safety units that adopt the optional 4% COLA, we removed this amount from the State's Public Safety funds' assets and treated it as an unallocated reserve. This will be allocated following the close of the election period during which units may elect the 4% COLA provision.

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, 57% of invested assets are held in equities and alternative investments, compared with 49% last year and 54% the year before.

Exhibit 11(b) shows a reconciliation of the market values between the beginning and end of 2009. 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 2009, the total investment return on market values was 13.2%, 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 7.75% investment return rate) 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 2010, the 5-year smoothed asset value is \$20.8 billion for all systems combined, or 118% of the market value of assets.

The development of the AVA is shown on Exhibits 13 and 14. This work was performed by the URS staff, but has been 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 Public Employees and Public Safety noncontributory systems. For example, Fund 23, Other Division A, in the Public Safety Contributory System is paired with Fund 43, Other Division A, in the Public Safety Noncontributory 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, an amount of assets is transferred each year between fund pairs, as necessary. 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 normal transfer between paired funds, there is a special window open in the Public Safety systems until, December 31, 2012, allowing employers to elect a 4% maximum COLA, instead of the 2.5% COLA that is the base benefit provided in these systems. In order to determine the amount of assets to be transferred, we determined the liabilities for the transferring units under the 2.5% COLA and compared that liability with the liabilities of the entire fund. That ratio was then multiplied by the market value and actuarial value of assets to determine the amount of assets to be transferred. This provided both funds with the same funded ratio before reflecting the additional liabilities associated with the 4% maximum COLA.

Because these 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. The transfers shown on Exhibit 14 are the net transfers of the assets from the 2.5% maximum COLA funds and the rebalancing transfer between the paired 4% maximum COLA funds.

In addition to the market return, Exhibit 12(a) also shows the return on the actuarial value for URS. For 2009, this return was 6.1%. Because this is less than the 2009 assumed 7.75% investment return, 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, showing 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, 2009. 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.

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(g) show summaries of certain historical data, including membership statistics, for each system.

For all funds combined, the number of active members decreased from 106,217 to 105,102, a 1.0% decrease. Last year, total active membership grew 2.4%, and over the last ten years, membership growth has averaged 1.3% per year.

Total active member payroll grew 1.1% last year for all funds combined, compared to 7.0% the prior year. Payroll growth for the last ten years has averaged 4.4% per year.

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 2010 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, 2011.

There were two bills enacted during the 2010 legislation session materially affecting benefits provided by URS:

SB 43 removes the cap on the maximum retirement benefit a retiree may receive from the Public Safety, Firefighters', and Judges' Retirement Systems. This change is effective for members retiring on or after July 1, 2010, and it is reflected in this valuation. This bill also modified provisions related to reemployed retirees. These later provisions, we believe, will ultimately lower contribution rates, buy changing retirement patterns. However, we could not measure such effects in this valuation, so no savings are reflected herein.

The New Public Employees' Tier II Contributory Retirement Act (SB 63) was also passed during the 2010 legislative session. This law closes the current plans to new members effective as of July 1, 2011, and it creates a new retirement benefit structure (Tier II) for those future hires. This bill also requires that employers of members in Tier II continue to pay the Tier I amortization percentage to the Tier I plans (the current plans). This bill does not impact the benefits provided to current URS members, as well as employees becoming members of URS before July 1, 2011, and it creates a mechanism for ensuring that the UAAL is amortized over the payroll for both current and Tier II members. Therefore, there was no impact on the current valuation due to SB 63.

This valuation reflects all benefits promised to URS members, either by the statutes, or in the case of the special supplement for the Governors' and Legislators' Retirement Plan and the ROPP payments (discussed later), by the Board. There are no ancillary benefits that might be deemed a URS liability if continued beyond the availability of funding by the current funding source.

ACTUARIAL METHODS AND ASSUMPTIONS

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

The Board, in consultation with the actuary, sets the actuarial assumptions and methods used in the valuation. Current Board policy is to perform an experience study every three years. In connection with the appropriate valuation, the actuary conducts a thorough review of plan experience for the preceding five years, and then makes recommendations to the Board. The next experience analysis is scheduled for 2011.

The actuarial assumptions and methods used to determine the results of the 2010 valuation are the same as those used for the prior year's valuation. Costs are determined using the Entry Age actuarial cost method and the assumed investment return rate is 7.75%.

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 85.7%. This is a slight decrease from the prior year when the funded ratio was 86.6%. This decrease is primarily due to the recognition of an additional 20% of the extraordinary investment loss that occurred in 2008. Absent future offsetting actuarial gains, it is expected that the funded status of the plans will continue to decrease as deferred investment losses for 2008 are gradually recognized over the next three years. Many of the Noncontributory Public Safety funds as well as the 3% Substantial Substitute fund continue to have funded ratios below 80%. The latter has only been a liability of URS since 1994. 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.

The calculated employer contribution rate is computed as a level percentage of payroll using a 24-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, the recommended rate meets the definition of an acceptable ARC.

Under Governmental Accounting Standards Board Statement No. 25 (GASB 25), when a plan is closed to new members, the amortization charge should be determined based on the closed group's pay or as fixed dollar payments, rather than as payments which are level as a percentage of increasing payroll. However, because the plan will continue to receive amortization payments from the employers of Tier 2 members, i.e., based on the payroll for an open group of current and future employees, not the closed group of current members, we believe it is appropriate to continue to use a level-payroll amortization of the UAAL.

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 2010, we are recommending an appropriation for fiscal year 2012. 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, it would be inappropriate to determine the cost of the plan as a level percentage of pay. Therefore, 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 2012. 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.

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 in computing the offsets. First, we calculate a percentage of pay offset for each year, equal to receipts divided by payroll. (For the Firefighters, all calculations are done on a combined basis for Divisions A and B.) Then the offset percentages for the just completed year and the two prior years are averaged. This average is then used as the current year's offset. The calculation of the offsets is shown on Exhibit 2(b).

The offset for the Firefighter System increased from 11.87% to 13.34%, and the offset for the Judges System increased from 14.08% to 14.26%. The increase in the Firefighter System offset is due to an increase in the Fire Insurance Premium Tax receipts during 2009. Similarly, an increase in the amount of court fees received during 2009 increased the Judges' offset.

The gross employer contribution rate for Division A Firefighters (Fund 31) was larger than the offset, so employers will be required to make a contribution rate. Because there was no unused offset, the member contribution rate remains at 15.05%.

The gross employer contribution rate for Division B of the Firefighter's System (Fund 32) is less than the offset for the fire insurance premium. Based on Board policy, we first applied the offset to reduce the employer contribution rate to zero, and then we used the remaining offset to reduce the member contribution rates. There was sufficient offset remaining, after reducing the employer rate to zero, to reduce the member rate below the current 16.18%. However, based on Board policy the member rate will not be allowed to decrease below the current rate until the Fund reaches a 110% funded ratio. See Table 2(c) for the effect of the offsets on the employer and member rates.

The 2004 Legislature enacted legislation which created the Public Safety Retirees' Cost-of-Living Increases 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 2009.

As a result of the creation of the Public Safety 4% maximum COLA window, funds from Public Safety Retirees' Cost-of-Living Increases Restricted Account will be transferred to the Public Safety funds which elect the 4% maximum COLA. The initial transfer will not occur until after the window closes in 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.

The actuarially determined contribution required to pay for this benefit is 0.61%, 0.24% 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 to allow 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, 2009, the market value of this fund is \$3.56 million. The initial allocation of these funds will not occur until after the window closes at the end of 2012. In future years, any funds that would have been transferred into this account will be allocated to the employers that elected the 4.0% COLA.

SECTION III
SUPPORTING EXHIBITS

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

Fund/Division (1)	Prior Year Valuation Certified Rates for FY 2011			Current Year Valuation Recommended Rates for FY 2012			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%	9.21%	15.21%	6.00%	9.61%	15.61%	0.40%
B. State and School	6.00%	11.68%	17.68%	6.00%	12.22%	18.22%	0.54%
II. Public Employees Noncontributory							
A. Local Government	0.00%	13.22%	13.22%	0.00%	13.62%	13.62%	0.40%
B. State and School	0.00%	16.17%	16.17%	0.00%	16.71%	16.71%	0.54%
III. Public Safety Contributory							
A. State	12.29%	21.68%	33.97%	12.29%	22.88%	35.17%	1.20%
B. Other Division A (2.5% COLA)	12.29%	14.86%	27.15%	12.29%	15.78%	28.07%	0.92%
C. Other Division A (4% COLA)	12.29%	18.34%	30.63%	12.29%	18.34%	30.63%	0.00%
D. Logan	11.13%	20.95%	32.08%	11.13%	21.36%	32.49%	0.41%
E. Other Division B (2.5% COLA)	10.50%	18.98%	29.48%	10.50%	19.48%	29.98%	0.50%
F. Other Division B (4% COLA)	10.50%	23.22%	33.72%	10.50%	23.22%	33.72%	0.00%
IV. Public Safety Noncontributory							
A. State	0.00%	32.75%	32.75%	0.00%	34.12%	34.12%	1.37%
B. Other Division A (2.5% COLA)	0.00%	26.13%	26.13%	0.00%	27.07%	27.07%	0.94%
C. Other Division A (4% COLA)	0.00%	28.82%	28.82%	0.00%	28.82%	28.82%	0.00%
D. Salt Lake City	0.00%	36.31%	36.31%	0.00%	36.71%	36.71%	0.40%
E. Ogden	0.00%	34.93%	34.93%	0.00%	36.13%	36.13%	1.20%
F. Provo	0.00%	32.98%	32.98%	0.00%	33.05%	33.05%	0.07%
G. Logan	0.00%	31.49%	31.49%	0.00%	31.91%	31.91%	0.42%
H. Bountiful	0.00%	27.73%	27.73%	0.00%	29.19%	29.19%	1.46%
I. Other Division B (2.5% COLA)	0.00%	28.24%	28.24%	0.00%	28.64%	28.64%	0.40%
J. Other Division B (4% COLA)	0.00%	32.70%	32.70%	0.00%	32.70%	32.70%	0.00%
V. Firefighters							
A. Division A							
1. Gross Rate	15.05%	13.59%	28.64%	15.05%	13.84%	28.89%	0.25%
2. Less Estimated Offset	<u>0.00%</u>	<u>-11.87%</u>	<u>-11.87%</u>	<u>0.00%</u>	<u>-13.34%</u>	<u>-13.34%</u>	<u>-1.47%</u>
3. Net Rate	15.05%	1.72%	16.77%	15.05%	0.50%	15.55%	-1.22%
B. Division B							
1. Gross Rate	16.71%	11.34%	28.05%	16.71%	11.76%	28.47%	0.42%
2. Less Estimated Offset	<u>-0.53%</u>	<u>-11.34%</u>	<u>-11.87%</u>	<u>-0.53%</u>	<u>-11.76%</u>	<u>-12.29%</u>	<u>-0.42%</u>
3. Net Rate	16.18%	0.00%	16.18%	16.18%	0.00%	16.18%	0.00%
VI. Judges							
A. Gross Rate	0.00%	37.80%	37.80%	0.00%	40.08%	40.08%	2.28%
B. Less Estimated Offset	<u>-0.00%</u>	<u>-14.08%</u>	<u>-14.08%</u>	<u>-0.00%</u>	<u>-14.26%</u>	<u>-14.26%</u>	<u>-0.18%</u>
C. Net Rate	0.00%	23.72%	23.72%	0.00%	25.82%	25.82%	2.10%

Note: Rates reflect 3% Substantial Substitute where applicable

Group Insurance contribution rate has been excluded

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

Certified rates for fiscal year 2011 have been adjusted to reflect the impact of SB 43

Development of Recommended 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	9.61%	9.21%	9.61%	9.61%
B. State and School	11.37%	10.83%	11.37%	12.22%
II. Public Employees Noncontributory				
A. Local Government	13.62%	13.22%	13.62%	13.62%
B. State and School	15.86%	15.32%	15.86%	16.71%
III. Public Safety Contributory				
A. State	22.03%	20.83%	22.03%	22.88%
B. Other Division A (2.5% COLA)	15.78%	14.86%	15.78%	15.78%
C. Other Division A (4% COLA)	17.91%	18.34%	18.34%	18.34%
D. Logan	21.36%	20.95%	21.36%	21.36%
E. Other Division B (2.5% COLA)	19.48%	18.98%	19.48%	19.48%
F. Other Division B (4% COLA)	22.75%	23.22%	23.22%	23.22%
IV. Public Safety Noncontributory				
A. State	33.27%	31.90%	33.27%	34.12%
B. Other Division A (2.5% COLA)	27.07%	26.13%	27.07%	27.07%
C. Other Division A (4% COLA)	28.68%	28.82%	28.82%	28.82%
D. Salt Lake City	36.71%	36.31%	36.71%	36.71%
E. Ogden	36.13%	34.93%	36.13%	36.13%
F. Provo	33.05%	32.98%	33.05%	33.05%
G. Logan	31.91%	31.49%	31.91%	31.91%
H. Bountiful	29.19%	27.73%	29.19%	29.19%
I. Other Division B (2.5% COLA)	28.64%	28.24%	28.64%	28.64%
J. Other Division B (4% COLA)	32.40%	32.70%	32.70%	32.70%
V. Firefighters				
A. Division A	13.84%	13.59%	13.84%	13.84%
B. Division B	11.76%	11.34%	11.76%	11.76%
VI. Judges	39.23%	36.95%	39.23%	40.08%
VII. 3% Substantial Substitute	0.61%	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 exclude the Group Insurance contribution rate

Rates in Column (4) reflect application of U.C. Sec. 49-11-301(5).

Certified rates for fiscal year 2011 have been adjusted to reflect the impact of SB 43

Estimated Fiscal Year 2012 Contribution Requirements

Fund/Division (1)	FY 2012 Projected Pay (2)	FY 2012 Employer Contribution Rate (3)	Employer Contribution (2) x (3) (4)	Increase in Employer Contribution Rate [See Exhibit 1(a)] (5)	"New Money" Requirement (2) x (5) (6)
I. Public Employees Contributory					
A. Local Government	68,742	9.61%	6,606	0.40%	275
B. State and School	64,358	12.22%	7,865	0.54%	348
C. Subtotal	133,100		14,471		623
II. Public Employees Noncontributory					
A. Local Government	997,646	13.62%	135,879	0.40%	3,991
B. State and School	3,326,226	16.71%	555,812	0.54%	17,962
C. Subtotal	4,323,872		691,691		21,953
III. Public Safety Contributory					
A. State	463	22.88%	106	1.20%	6
B. Other Division A (2.5% COLA)	6,902	15.78%	1,089	0.92%	64
C. Other Division A (4% COLA)	310	18.34%	57	0.00%	-
D. Logan	570	21.36%	122	0.41%	2
E. Other Division B (2.5% COLA)	630	19.48%	123	0.50%	3
F. Other Division B (4% COLA)	455	23.22%	106	0.00%	-
G. Subtotal	9,330		1,603		75
IV. Public Safety Noncontributory					
A. State	130,179	34.12%	44,417	1.37%	1,783
B. Other Division A (2.5% COLA)	144,331	27.07%	39,071	0.94%	1,357
C. Other Division A (4% COLA)	36,964	28.82%	10,653	0.00%	-
D. Salt Lake City	30,540	36.71%	11,211	0.40%	122
E. Ogden	6,036	36.13%	2,181	1.20%	72
F. Provo	5,423	33.05%	1,792	0.07%	4
G. Logan	2,467	31.91%	787	0.42%	10
H. Bountiful	2,207	29.19%	644	1.46%	32
I. Other Division B (2.5% COLA)	38,559	28.64%	11,043	0.40%	154
J. Other Division B (4% COLA)	4,971	32.70%	1,626	0.00%	-
K. Subtotal	401,677		123,425		3,534
V. Firefighters					
A. Division A	30,233	0.50%	151	-1.22%	(369)
B. Division B	87,500	0.00%	-	0.00%	-
C. Subtotal	117,733		151		(369)
VI. Judges	15,945	25.82%	4,117	2.10%	335
VII. Governors and Legislative	633	N/A	214	N/A	61
VIII. Grand Total	5,002,289		835,672		26,212

Note: Rates reflect 3% Substantial Substitute where applicable
Group Insurance contribution rate has been excluded
Rates for Firefighters and Judges are net of offsets for fire insurance premium tax receipts and court fees
Recommended rates reflect application of U.C. Sec. 49-11-301(5)
New money requirement for Governors and Legislative Plan is the increase in the recommended appropriation
Amounts shown are in \$ thousands

Components of Actuarially Calculated Contribution Rates

Fund/Division	Net Normal Cost	Amortization of UAAL	3% Substantial Substitute	Gross Employer Rate (2 + 3 + 4)	Offset	Net Employer Rate (5 - 6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
I. Public Employees Contributory						
A. Local Government	4.95%	4.66%	0.00%	9.61%	0.00%	9.61%
B. State and School	3.93%	7.44%	0.61%	11.98%	0.00%	11.98%
II. Public Employees Noncontributory						
A. Local Government	11.03%	2.59%	0.00%	13.62%	0.00%	13.62%
B. State and School	11.71%	4.15%	0.61%	16.47%	0.00%	16.47%
III. Public Safety Contributory						
A. State	11.46%	10.57%	0.61%	22.64%	0.00%	22.64%
B. Other Division A (2.5% COLA)	10.15%	5.63%	0.00%	15.78%	0.00%	15.78%
C. Other Division A (4% COLA)	11.51%	6.40%	0.00%	17.91%	0.00%	17.91%
D. Logan	10.85%	10.51%	0.00%	21.36%	0.00%	21.36%
E. Other Division B (2.5% COLA)	12.40%	7.08%	0.00%	19.48%	0.00%	19.48%
F. Other Division B (4% COLA)	12.80%	9.95%	0.00%	22.75%	0.00%	22.75%
IV. Public Safety Noncontributory						
A. State	22.70%	10.57%	0.61%	33.88%	0.00%	33.88%
B. Other Division A (2.5% COLA)	21.44%	5.63%	0.00%	27.07%	0.00%	27.07%
C. Other Division A (4% COLA)	22.28%	6.40%	0.00%	28.68%	0.00%	28.68%
D. Salt Lake City	21.53%	15.18%	0.00%	36.71%	0.00%	36.71%
E. Ogden	21.56%	14.57%	0.00%	36.13%	0.00%	36.13%
F. Provo	21.68%	11.37%	0.00%	33.05%	0.00%	33.05%
G. Logan	21.40%	10.51%	0.00%	31.91%	0.00%	31.91%
H. Bountiful	21.68%	7.51%	0.00%	29.19%	0.00%	29.19%
I. Other Division B (2.5% COLA)	21.56%	7.08%	0.00%	28.64%	0.00%	28.64%
J. Other Division B (4% COLA)	22.45%	9.95%	0.00%	32.40%	0.00%	32.40%
V. Firefighters						
A. Division A	11.70%	2.14%	0.00%	13.84%	13.34%	0.50%
B. Division B	10.10%	1.66%	0.00%	11.76%	11.76%	0.00%
VI. Judges	27.96%	11.27%	0.61%	39.84%	14.26%	25.58%

Determination of Contribution Rate Offsets for Firefighters and Judges

A. Firefighter's Offset

	<u>2007</u>	<u>2008</u>	<u>2009</u>
1. Calendar Year			
2. Fire insurance premium receipts	\$ 13,797,000	\$ 10,219,000	\$ 16,159,000
3. Combined payroll for both funds*	94,488,204	101,507,722	105,341,111
4. Premiums as percentage of payroll	14.60%	10.07%	15.34%
5. Offset: 3-year arithmetic average of percent of payroll			13.34%

B. Judge's Offset

	<u>2007</u>	<u>2008</u>	<u>2009</u>
1. Calendar Year			
2. Court fees	\$ 1,850,000	\$ 2,072,000	\$ 2,101,000
3. Payroll*	13,386,997	14,346,512	14,458,333
4. Premiums as percentage of payroll	13.82%	14.44%	14.53%
5. Offset: 3-year arithmetic average of percent of payroll			14.26%

* Reported payroll for members active at end of year

**Effect of Offsets on Recommended Employer Rates
 and Member Rates**

Fund/Division	Gross Recommended Employer Rates	Offset Percentage	Net Employer Rate Not Less Than Zero	Unused Offset* (3) - (2)
(1)	(2)	(3)	(4)	(5)
I. Firefighters				
Division A	13.84%	13.34%	0.50%	0.00%
Division B	11.76%	13.34%	0.00%	1.58%
II. Judges	40.08%	14.26%	25.82%	0.00%

Fund/Division	Gross Member Rate	Available Offset*	Net (2) - (3)	Net Member Rate from Prior Year	Greater of (4, 5)
(1)	(2)	(3)	(4)	(5)	(6)
I. Firefighters					
Division A	15.05%	0.00%	15.05%	15.05%	15.05%
Division B	16.71%	1.58%	15.13%	16.18%	16.18%

* Available to offset member contribution rates

Schedule of Funding Progress

Fund/Division	Actuarial Value of Assets	Actuarial Accrued Liability (AAL)	Unfunded AAL (UAAL) (3 - 2)	Funded Ratio (2 / 3)	Covered Payroll	UAAL as a Percentage of Covered Payroll (4 / 6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
I. Public Employees Contributory						
A. Local Government	367,967	415,810	47,843	88.5%	61,927	77.3%
B. State and School	748,768	820,199	71,431	91.3%	58,331	122.5%
C. Subtotal	1,116,735	1,236,009	119,274	90.4%	120,258	99.2%
II. Public Employees Noncontributory						
A. Local Government	2,916,719	3,301,679	384,960	88.3%	895,722	43.0%
B. State and School	13,517,895	15,577,798	2,059,903	86.8%	2,992,693	68.8%
C. Subtotal	16,434,614	18,879,477	2,444,863	87.1%	3,888,415	62.9%
III. Public Safety Contributory						
A. State	60,930	61,660	730	98.8%	418	174.6%
B. Other Division A (2.5% COLA)	131,976	137,780	5,804	95.8%	6,209	93.5%
C. Other Division A (4% COLA)	29,451	29,746	296	99.0%	279	106.1%
D. Logan	12,019	12,913	894	93.1%	513	174.3%
E. Other Division B (2.5% COLA)	30,371	31,038	667	97.9%	569	117.2%
F. Other Division B (4% COLA)	7,147	7,823	676	91.4%	410	164.9%
G. Subtotal	271,894	280,960	9,067	96.8%	8,398	108.0%
IV. Public Safety Noncontributory						
A. State	695,124	900,570	205,446	77.2%	116,939	175.7%
B. Other Division A (2.5% COLA)	575,088	696,449	121,361	82.6%	131,666	92.2%
C. Other Division A (4% COLA)	152,041	187,324	35,284	81.2%	30,290	116.5%
D. Salt Lake City	188,761	257,965	69,204	73.2%	27,454	252.1%
E. Ogden	47,334	60,463	13,129	78.3%	5,424	242.1%
F. Provo	33,227	42,432	9,205	78.3%	4,871	189.0%
G. Logan	7,315	11,182	3,868	65.4%	2,217	174.5%
H. Bountiful	16,476	18,951	2,475	86.9%	2,018	122.6%
I. Other Division B (2.5% COLA)	123,597	164,313	40,716	75.2%	34,630	117.6%
J. Other Division B (4% COLA)	22,681	30,066	7,386	75.4%	4,469	165.3%
K. Subtotal	1,861,644	2,369,715	508,074	78.6%	359,978	141.1%
V. Firefighters						
A. Division A	106,035	115,687	9,652	91.7%	26,998	35.8%
B. Division B	696,541	718,157	21,616	97.0%	78,343	27.6%
C. Subtotal	802,576	833,844	31,268	96.3%	105,341	29.7%
VI. Judges	131,491	158,303	26,812	83.1%	14,458	185.4%
VII. Governors and Legislative	10,770	11,305	535	95.3%	585	91.5%
VIII. 3% Substantial Substitute	185,219	505,026	319,807	36.7%	N/A	N/A
IX. Grand Total	20,814,943	24,274,639	3,459,700	85.7%	4,497,433	76.9%

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

Comparison of Funded Ratios

Fund/Division (1)	Funded Ratios as of January 1		
	2010 (2)	2009 (3)	2008 (4)
I. Public Employees Contributory			
A. Local Government	88.5%	88.6%	93.4%
B. State and School	91.3%	90.8%	94.6%
C. Subtotal	90.4%	90.1%	94.2%
II. Public Employees Noncontributory			
A. Local Government	88.3%	89.4%	98.1%
B. State and School	86.8%	87.7%	96.6%
C. Subtotal	87.1%	88.0%	96.9%
III. Public Safety Contributory			
A. State	98.8%	98.7%	99.3%
B. Other Division A (2.5% COLA)	95.8%	96.0%	97.7%
C. Other Division A (4% COLA)	99.0%	98.8%	N/A
D. Logan	93.1%	93.2%	95.7%
E. Other Division B (2.5% COLA)	97.9%	97.8%	90.8%
F. Other Division B (4% COLA)	91.4%	89.2%	N/A
G. Subtotal	96.8%	96.8%	95.4%
IV. Public Safety Noncontributory			
A. State	77.2%	78.1%	90.5%
B. Other Division A (2.5% COLA)	82.6%	84.8%	94.0%
C. Other Division A (4% COLA)	81.2%	80.0%	N/A
D. Salt Lake City	73.2%	73.7%	78.8%
E. Ogden	78.3%	78.7%	84.1%
F. Provo	78.3%	77.1%	85.0%
G. Logan	65.4%	65.5%	76.3%
H. Bountiful	86.9%	89.4%	97.7%
I. Other Division B (2.5% COLA)	75.2%	74.5%	85.9%
J. Other Division B (4% COLA)	75.4%	72.8%	N/A
K. Subtotal	78.6%	79.5%	89.9%
V. Firefighters			
A. Division A	91.7%	93.5%	101.9%
B. Division B	97.0%	99.4%	108.3%
C. Subtotal	96.3%	98.6%	107.5%
VI. Judges	83.1%	86.4%	95.9%
VII. Governors and Legislative	95.3%	98.7%	119.0%
VIII. 3% Substantial Substitute	36.7%	34.8%	36.1%
IX. Grand Total	85.7%	86.6%	95.1%

Analysis of Changes in Calculated Contribution Rates

Fund/Division	Calculated Rate From Jan. 1, 2009 Valuation	Changes in Calculated Rate Due To						Act. vs Exp. Contributions	Assumption & Methods Change	Calculated Rate Jan. 1, 2010 Valuation
		Payroll Growth	Investment Return	Liabilities	Transfer to 4% COLA Funds	Legislation				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
I. Public Employees Contributory										
A. Local Government	9.21%	0.06%	0.34%	-0.10%	0.00%	0.00%	0.10%	0.00%	9.61%	
B. State and School	11.43%	0.12%	0.43%	-0.18%	0.00%	0.00%	0.17%	0.00%	11.98%	
II. Public Employees Noncontributory										
A. Local Government	13.22%	0.06%	0.34%	-0.10%	0.00%	0.00%	0.10%	0.00%	13.62%	
B. State and School	15.92%	0.12%	0.43%	-0.18%	0.00%	0.00%	0.17%	0.00%	16.47%	
III. Public Safety Contributory										
A. State	21.20%	0.56%	0.60%	-0.25%	0.00%	0.23%	0.29%	0.00%	22.64%	
B. Other Division A (2.5% COLA)	14.57%	0.24%	0.51%	-0.07%	0.00%	0.32%	0.21%	0.00%	15.78%	
C. Other Division A (4% COLA)	18.10%	-0.32%	0.58%	-0.94%	0.01%	0.28%	0.20%	0.00%	17.91%	
D. Logan	20.69%	-0.20%	0.62%	-0.20%	0.00%	0.29%	0.16%	0.00%	21.36%	
E. Other Division B (2.5% COLA)	18.83%	0.08%	0.47%	-0.21%	0.00%	0.16%	0.15%	0.00%	19.48%	
F. Other Division B (4% COLA)	23.04%	0.22%	0.56%	-1.41%	0.00%	0.20%	0.14%	0.00%	22.75%	
IV. Public Safety Noncontributory										
A. State	32.23%	0.56%	0.60%	-0.08%	0.00%	0.27%	0.29%	0.00%	33.88%	
B. Other Division A (2.5% COLA)	25.83%	0.24%	0.51%	-0.04%	0.00%	0.32%	0.21%	0.00%	27.07%	
C. Other Division A (4% COLA)	28.55%	-0.32%	0.58%	-0.47%	-0.25%	0.38%	0.20%	0.00%	28.68%	
D. Salt Lake City	35.44%	0.37%	0.65%	-0.26%	0.00%	0.48%	0.03%	0.00%	36.71%	
E. Ogden	34.52%	0.92%	0.66%	-0.74%	0.00%	0.46%	0.31%	0.00%	36.13%	
F. Provo	32.70%	0.62%	0.61%	-1.43%	0.00%	0.35%	0.20%	0.00%	33.05%	
G. Logan	31.24%	-0.20%	0.62%	-0.20%	0.00%	0.29%	0.16%	0.00%	31.91%	
H. Bountiful	27.25%	0.12%	0.76%	0.25%	0.00%	0.43%	0.38%	0.00%	29.19%	
I. Other Division B (2.5% COLA)	28.06%	0.08%	0.47%	-0.32%	0.00%	0.20%	0.15%	0.00%	28.64%	
J. Other Division B (4% COLA)	32.52%	0.22%	0.56%	-1.23%	0.00%	0.19%	0.14%	0.00%	32.40%	
V. Firefighters										
A. Division A	12.95%	-0.06%	0.46%	-0.45%	0.00%	0.68%	0.26%	0.00%	13.84%	
B. Division B	9.97%	0.00%	0.78%	-0.33%	0.00%	1.31%	0.03%	0.00%	11.76%	
VI. Judges	36.10%	0.30%	0.82%	0.73%	0.00%	1.38%	0.50%	0.00%	39.84%	
VII. 3% Substantial Substitute	0.60%	0.02%	0.00%	-0.01%	0.00%	0.00%	-0.01%	0.00%	0.61%	

Notes: Rates shown as of Jan. 1, 2009 do not include any adjustments for 2009 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

Analysis of Change in UAAL

Fund/Division (1)	Changes in Unfunded Actuarial Accrued Liability Due To								Jan. 1, 2010 UAAL (10)
	Jan. 1, 2009 UAAL (2)	Amortization Payments (3)	Liability (Gain)/Loss (4)	Asset (Gain)/Loss (5)	Creation 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	46,293	1,459	(7,390)	5,449	0	0	0	2,032	47,843
B. State and School	74,568	1,483	(8,693)	8,822	0	0	0	(4,749)	71,431
C. Subtotal	120,861	2,942	(16,083)	14,271	0	0	0	(2,717)	119,274
II. Public Employees Noncontributory									
A. Local Government	326,403	15,412	(2,520)	47,697	0	0	0	(2,032)	384,960
B. State and School	1,818,394	71,917	(44,523)	209,367	0	0	0	4,749	2,059,903
C. Subtotal	2,144,797	87,329	(47,043)	257,064	0	0	0	2,717	2,444,863
III. Public Safety Contributory									
A. State	795	44	419	239	0	25	0	(793)	730
B. Other Division A (2.5% COLA)	5,437	676	845	14,286	(1)	994	0	(16,433)	5,804
C. Other Division A (4% COLA)	350	18	723	581	1	5	0	(1,382)	296
D. Logan	852	39	48	111	0	11	0	(166)	894
E. Other Division B (2.5% COLA)	683	21	150	(336)	0	26	0	122	667
F. Other Division B (4% COLA)	781	(55)	(59)	111	0	4	0	(106)	676
G. Subtotal	8,898	743	2,126	14,992	0	1,065	0	(18,758)	9,067
IV. Public Safety Noncontributory									
A. State	182,988	6,347	554	11,302	0	3,462	0	793	205,446
B. Other Division A (2.5% COLA)	97,528	4,664	2,780	(2,722)	(1,113)	3,791	0	16,433	121,361
C. Other Division A (4% COLA)	33,015	1,453	(5,132)	2,601	1,113	852	0	1,382	35,284
D. Salt Lake City	64,592	832	(839)	2,970	0	1,649	0	0	69,204
E. Ogden	12,471	422	(664)	589	0	311	0	0	13,129
F. Provo	9,430	265	(1,178)	493	0	195	0	0	9,205
G. Logan	3,514	82	(124)	169	0	61	0	166	3,868
H. Bountiful	1,890	136	90	248	0	111	0	0	2,475
I. Other Division B (2.5% COLA)	38,156	1,170	(2,033)	3,129	0	417	0	(122)	40,716
J. Other Division B (4% COLA)	7,538	247	(913)	349	0	59	0	106	7,386
K. Subtotal	451,122	15,618	(7,459)	19,128	0	10,908	0	18,758	508,074
V. Firefighters									
A. Division A	6,762	1,250	(1,773)	2,051	0	1,362	0	0	9,652
B. Division B	3,989	62	(4,095)	10,233	0	11,427	0	0	21,616
C. Subtotal	10,751	1,312	(5,868)	12,284	0	12,789	0	0	31,268
VI. Judges	19,845	1,175	2,884	1,957	0	951	0	0	26,812
VII. Governors and Legislative	141	135	149	110	0	0	0	0	535
VIII. 3% Substantial Substitute	322,331	(3,396)	(2,165)	2,420	0	617	0	0	319,807
IX. Grand Total	3,078,746	105,858	(73,460)	322,226	0	26,330	0	0	3,459,699

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	Retirees and Beneficiaries	Inactive Members	Active Members	Total
(1)	(2)	(3)	(4)	(5)
I. Public Employees Contributory				
A. Local Government	158,702	36,572	265,460	460,734
B. State and School	397,793	71,740	374,128	843,661
C. Subtotal	556,495	108,312	639,588	1,304,395
II. Public Employees Noncontributory				
A. Local Government	1,210,629	208,916	2,692,131	4,111,676
B. State and School	7,136,949	632,655	10,686,498	18,456,102
C. Subtotal	8,347,578	841,571	13,378,629	22,567,778
III. Public Safety Contributory				
A. State	57,733	921	3,288	61,942
B. Other Division A (2.5% COLA)	106,564	6,220	35,937	148,722
C. Other Division A (4% COLA)	27,783	700	1,737	30,220
D. Logan	10,520	187	3,112	13,819
E. Other Division B (2.5% COLA)	25,430	2,272	3,976	31,678
F. Other Division B (4% COLA)	5,590	359	2,546	8,496
G. Subtotal	233,620	10,659	50,596	294,877
IV. Public Safety Noncontributory				
A. State	458,476	23,220	642,849	1,124,545
B. Other Division A (2.5% COLA)	279,439	22,537	663,053	965,029
C. Other Division A (4% COLA)	70,682	6,234	179,618	256,534
D. Salt Lake City	158,407	3,234	148,148	309,788
E. Ogden	42,336	787	28,537	71,660
F. Provo	24,038	1,355	26,756	52,149
G. Logan	2,987	92	12,405	15,483
H. Bountiful	10,030	248	11,977	22,254
I. Other Division B (2.5% COLA)	52,790	4,985	176,567	234,343
J. Other Division B (4% COLA)	12,675	1,067	24,960	38,702
K. Subtotal	1,111,860	63,759	1,914,870	3,090,487
V. Firefighters				
A. Division A	42,775	2,909	163,498	209,182
B. Division B	424,509	6,150	529,503	960,162
C. Subtotal	467,284	9,059	693,001	1,169,344
VI. Judges	81,582	1,984	101,089	184,654
VII. Governors and Legislative	6,507	2,918	2,366	11,791
VIII. Grand Total	10,804,926	1,038,262	16,780,139	28,623,326

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	133,547	5,464	19,691	158,702
B. State and School	336,457	11,741	49,595	397,793
C. Subtotal	470,004	17,205	69,286	556,495
II. Public Employees Noncontributory				
A. Local Government	1,105,527	29,871	75,231	1,210,629
B. State and School	6,666,713	101,585	368,651	7,136,949
C. Subtotal	7,772,240	131,456	443,882	8,347,578
III. Public Safety Contributory				
A. State	39,463	2,692	15,578	57,733
B. Other Division A (2.5% COLA)	91,915	1,370	13,279	106,564
C. Other Division A (4% COLA)	22,432	233	5,118	27,783
D. Logan	10,273	108	139	10,520
E. Other Division B (2.5% COLA)	23,581	863	985	25,430
F. Other Division B (4% COLA)	5,283	0	307	5,590
G. Subtotal	192,947	5,266	35,406	233,620
IV. Public Safety Noncontributory				
A. State	431,244	6,969	20,262	458,476
B. Other Division A (2.5% COLA)	261,417	3,971	14,052	279,439
C. Other Division A (4% COLA)	67,781	0	2,901	70,682
D. Salt Lake City	142,280	3,518	12,609	158,407
E. Ogden	37,824	507	4,005	42,336
F. Provo	21,953	0	2,086	24,038
G. Logan	2,698	0	289	2,987
H. Bountiful	9,256	392	381	10,030
I. Other Division B (2.5% COLA)	49,327	1,138	2,325	52,790
J. Other Division B (4% COLA)	12,315	0	360	12,675
K. Subtotal	1,036,095	16,495	59,270	1,111,860
V. Firefighters				
A. Division A	33,525	5,616	3,635	42,775
B. Division B	364,388	20,040	40,081	424,509
C. Subtotal	397,913	25,656	43,716	467,284
VI. Judges	73,081	0	8,501	81,582
VII. Governors and Legislative	5,418	0	1,089	6,507
VIII. Grand Total	9,947,698	196,078	661,150	10,804,926

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	3,002	31,818	1,751	36,572
B. State and School	8,878	62,822	40	71,740
C. Subtotal	11,880	94,640	1,791	108,312
II. Public Employees Noncontributory				
A. Local Government	23,835	184,018	1,063	208,916
B. State and School	92,969	534,979	4,707	632,655
C. Subtotal	116,804	718,997	5,770	841,571
III. Public Safety Contributory				
A. State	0	911	10	921
B. Other Division A (2.5% COLA)	157	5,661	402	6,220
C. Other Division A (4% COLA)	0	690	11	700
D. Logan	0	175	11	187
E. Other Division B (2.5% COLA)	0	2,172	100	2,272
F. Other Division B (4% COLA)	145	214	0	359
G. Subtotal	302	9,823	534	10,659
IV. Public Safety Noncontributory				
A. State	2,564	20,647	9	23,220
B. Other Division A (2.5% COLA)	1,168	21,342	26	22,537
C. Other Division A (4% COLA)	244	5,989	0	6,234
D. Salt Lake City	742	2,491	1	3,234
E. Ogden	0	787	0	787
F. Provo	0	1,317	38	1,355
G. Logan	0	92	0	92
H. Bountiful	0	248	0	248
I. Other Division B (2.5% COLA)	654	4,300	32	4,985
J. Other Division B (4% COLA)	0	1,067	0	1,067
K. Subtotal	5,372	58,280	106	63,759
V. Firefighters				
A. Division A	0	2,729	180	2,909
B. Division B	0	5,850	300	6,150
C. Subtotal	0	8,579	480	9,059
VI. Judges	0	1,984	0	1,984
VII. Governors and Legislative	0	2,909	9	2,918
VIII. Grand Total	134,358	895,212	8,690	1,038,262

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	240,555	11,966	6,345	2,757	3,837	265,460
B. State and School	357,807	7,193	4,603	0	4,524	374,128
C. Subtotal	598,362	19,159	10,948	2,757	8,361	639,588
II. Public Employees Noncontributory						
A. Local Government	2,364,120	205,177	76,286	5	46,543	2,692,131
B. State and School	9,780,399	529,584	223,483	0	153,031	10,686,498
C. Subtotal	12,144,519	734,761	299,769	5	199,574	13,378,629
III. Public Safety Contributory						
A. State	3,274	0	0	0	15	3,288
B. Other Division A (2.5% COLA)	34,519	352	415	406	246	35,937
C. Other Division A (4% COLA)	1,677	17	19	9	14	1,737
D. Logan	2,996	36	33	23	24	3,112
E. Other Division B (2.5% COLA)	3,889	23	26	6	32	3,976
F. Other Division B (4% COLA)	2,456	25	29	11	24	2,546
G. Subtotal	48,811	453	522	455	355	50,596
IV. Public Safety Noncontributory						
A. State	612,859	12,969	11,073	0	5,947	642,849
B. Other Division A (2.5% COLA)	627,384	16,405	12,890	3	6,372	663,053
C. Other Division A (4% COLA)	170,165	4,324	3,423	0	1,706	179,618
D. Salt Lake City	141,654	2,734	2,191	0	1,569	148,148
E. Ogden	27,007	666	532	0	333	28,537
F. Provo	25,462	557	441	2	294	26,756
G. Logan	11,902	218	166	0	119	12,405
H. Bountiful	11,558	170	147	0	103	11,977
I. Other Division B (2.5% COLA)	167,566	3,833	3,118	1	2,049	176,567
J. Other Division B (4% COLA)	23,875	455	366	0	265	24,960
K. Subtotal	1,819,432	42,331	34,347	6	18,757	1,914,870
V. Firefighters						
A. Division A	153,765	318	6,564	804	2,046	163,498
B. Division B	505,675	579	13,719	1,576	7,955	529,503
C. Subtotal	659,440	897	20,283	2,380	10,001	693,001
VI. Judges	99,187	0	0	0	1,902	101,089
VII. Governors and Legislative	1,633	710	0	0	22	2,366
VIII. Grand Total	15,371,384	798,311	365,869	5,603	238,972	16,780,139

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 (1)	Basic Benefit (2)	COLA (3)	Subtotal (2) + (3) (4)	ROPP (5)	Total (4) + (5) (6)
I. Public Employees Contributory					
A. Local Government	106,782	51,678	158,460	242	158,702
B. State and School	257,664	138,834	396,498	1,295	397,793
C. Subtotal	364,446	190,512	554,958	1,537	556,495
II. Public Employees Noncontributory					
A. Local Government	836,585	374,044	1,210,629	0	1,210,629
B. State and School	4,881,877	2,255,072	7,136,949	0	7,136,949
C. Subtotal	5,718,462	2,629,116	8,347,578	0	8,347,578
III. Public Safety Contributory					
A. State	30,974	25,198	56,172	1,561	57,733
B. Other Division A (2.5% COLA)	70,916	35,071	105,987	578	106,564
C. Other Division A (4% COLA)	16,116	11,338	27,454	328	27,783
D. Logan	7,265	3,250	10,515	5	10,520
E. Other Division B (2.5% COLA)	18,293	7,134	25,427	2	25,430
F. Other Division B (4% COLA)	3,638	1,952	5,590	0	5,590
G. Subtotal	147,202	83,943	231,145	2,474	233,620
IV. Public Safety Noncontributory					
A. State	308,855	149,617	458,472	4	458,476
B. Other Division A (2.5% COLA)	201,351	78,088	279,439	0	279,439
C. Other Division A (4% COLA)	48,344	22,338	70,682	0	70,682
D. Salt Lake City	106,456	51,552	158,008	399	158,407
E. Ogden	28,990	13,278	42,268	67	42,336
F. Provo	16,529	7,454	23,983	55	24,038
G. Logan	2,240	747	2,987	0	2,987
H. Bountiful	7,077	2,945	10,022	7	10,030
I. Other Division B (2.5% COLA)	38,500	14,290	52,790	0	52,790
J. Other Division B (4% COLA)	8,927	3,748	12,675	0	12,675
K. Subtotal	767,269	344,057	1,111,326	532	1,111,860
V. Firefighters					
A. Division A	28,687	13,976	42,663	113	42,775
B. Division B	272,060	149,898	421,958	2,551	424,509
C. Subtotal	300,747	163,874	464,621	2,664	467,284
VI. Judges	51,574	30,008	81,582	0	81,582
VII. Governors and Legislative	3,992	1,915	5,907	600	6,507
VIII. Grand Total	7,353,692	3,443,425	10,797,117	7,807	10,804,926

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	7.35%	1.33%	0.74%	1.34%	0.19%	10.95%
B. State and School	6.30%	1.05%	0.57%	1.85%	0.16%	9.93%
II. Public Employees Noncontributory						
A. Local Government	8.51%	1.78%	0.54%	0.00%	0.20%	11.03%
B. State and School	9.60%	1.47%	0.46%	0.00%	0.18%	11.71%
III. Public Safety Contributory						
A. State	20.25%	0.74%	1.19%	1.19%	0.38%	23.75%
B. Other Division A (2.5% COLA)	19.32%	0.59%	0.82%	1.44%	0.27%	22.44%
C. Other Division A (4% COLA)	20.71%	0.62%	0.90%	1.28%	0.29%	23.80%
D. Logan	19.00%	0.53%	0.60%	1.53%	0.32%	21.98%
E. Other Division B (2.5% COLA)	19.66%	0.66%	1.02%	1.07%	0.49%	22.90%
F. Other Division B (4% COLA)	20.20%	0.60%	0.84%	1.25%	0.41%	23.30%
IV. Public Safety Noncontributory						
A. State	20.31%	1.07%	1.00%	0.00%	0.32%	22.70%
B. Other Division A (2.5% COLA)	19.33%	1.00%	0.83%	0.00%	0.28%	21.44%
C. Other Division A (4% COLA)	20.08%	1.03%	0.88%	0.00%	0.29%	22.28%
D. Salt Lake City	19.35%	0.97%	0.81%	0.00%	0.40%	21.53%
E. Ogden	19.34%	0.98%	0.83%	0.00%	0.41%	21.56%
F. Provo	19.42%	0.99%	0.85%	0.00%	0.42%	21.68%
G. Logan	19.38%	0.94%	0.72%	0.00%	0.36%	21.40%
H. Bountiful	19.52%	1.00%	0.87%	0.00%	0.29%	21.68%
I. Other Division B (2.5% COLA)	19.35%	0.97%	0.83%	0.00%	0.41%	21.56%
J. Other Division B (4% COLA)	20.12%	1.01%	0.89%	0.00%	0.43%	22.45%
V. Firefighters						
A. Division A	24.02%	0.12%	1.74%	0.47%	0.40%	26.75%
B. Division B	24.21%	0.10%	1.46%	0.50%	0.54%	26.81%
VI. Judges	26.95%	0.00%	0.00%	0.00%	1.01%	27.96%

Note: Columns may not add to total due to rounding

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	10.95%	6.00%	4.95%
B. State and School	9.93%	6.00%	3.93%
II. Public Employees Noncontributory			
A. Local Government	11.03%	0.00%	11.03%
B. State and School	11.71%	0.00%	11.71%
III. Public Safety Contributory			
A. State	23.75%	12.29%	11.46%
B. Other Division A (2.5% COLA)	22.44%	12.29%	10.15%
C. Other Division A (4% COLA)	23.80%	12.29%	11.51%
D. Logan	21.98%	11.13%	10.85%
E. Other Division B (2.5% COLA)	22.90%	10.50%	12.40%
F. Other Division B (4% COLA)	23.30%	10.50%	12.80%
IV. Public Safety Noncontributory			
A. State	22.70%	0.00%	22.70%
B. Other Division A (2.5% COLA)	21.44%	0.00%	21.44%
C. Other Division A (4% COLA)	22.28%	0.00%	22.28%
D. Salt Lake City	21.53%	0.00%	21.53%
E. Ogden	21.56%	0.00%	21.56%
F. Provo	21.68%	0.00%	21.68%
G. Logan	21.40%	0.00%	21.40%
H. Bountiful	21.68%	0.00%	21.68%
I. Other Division B (2.5% COLA)	21.56%	0.00%	21.56%
J. Other Division B (4% COLA)	22.45%	0.00%	22.45%
V. Firefighters			
A. Division A	26.75%	15.05%	11.70%
B. Division B	26.81%	16.71%	10.10%
VI. Judges	27.96%	0.00%	27.96%

Determination of Actuarial Accrued Liability

Fund/Division	Actuarial Present Value of Future Benefits	Actuarial Present Value of Future Normal Costs			Actuarial Accrued Liability (2) - (5)
		Members	Employers	Total	
(1)	(2)	(3)	(4)	(5)	(6)
I. Public Employees Contributory					
A. Local Government	460,734	24,616	20,308	44,924	415,810
B. State and School	843,661	14,176	9,286	23,462	820,199
C. Subtotal	1,304,395	38,792	29,594	68,386	1,236,009
II. Public Employees Noncontributory					
A. Local Government	4,111,676	0	809,997	809,997	3,301,679
B. State and School	18,456,102	0	2,878,304	2,878,304	15,577,798
C. Subtotal	22,567,778	0	3,688,301	3,688,301	18,879,477
III. Public Safety Contributory					
A. State	61,942	146	137	283	61,660
B. Other Division A (2.5% COLA)	148,722	5,993	4,949	10,942	137,780
C. Other Division A (4% COLA)	30,220	245	229	474	29,746
D. Logan	13,819	459	447	906	12,913
E. Other Division B (2.5% COLA)	31,678	294	346	640	31,038
F. Other Division B (4% COLA)	8,496	303	370	673	7,823
G. Subtotal	294,877	7,440	6,478	13,918	280,960
IV. Public Safety Noncontributory					
A. State	1,124,545	0	223,975	223,975	900,570
B. Other Division A (2.5% COLA)	965,029	0	268,580	268,580	696,449
C. Other Division A (4% COLA)	256,534	0	69,210	69,210	187,324
D. Salt Lake City	309,788	0	51,823	51,823	257,965
E. Ogden	71,660	0	11,198	11,198	60,463
F. Provo	52,149	0	9,717	9,717	42,432
G. Logan	15,483	0	4,301	4,301	11,182
H. Bountiful	22,254	0	3,303	3,303	18,951
I. Other Division B (2.5% COLA)	234,343	0	70,030	70,030	164,313
J. Other Division B (4% COLA)	38,702	0	8,636	8,636	30,066
K. Subtotal	3,090,487	0	720,773	720,773	2,369,715
V. Firefighters					
A. Division A	209,182	52,602	40,893	93,495	115,687
B. Division B	960,162	150,836	91,169	242,005	718,157
C. Subtotal	1,169,344	203,438	132,062	335,500	833,844
VI. Judges	184,654	0	26,352	26,352	158,303
VII. Governors and Legislative	11,791	0	486	486	11,305
VIII. Grand Total	28,623,326	249,670	4,604,046	4,853,716	23,769,613

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 (1)	Inactive Members			Active Members			
	Accumulated	Employer	Total	Accumulated	Employer	Total	
	Member	Financed		Member	Financed		
Contributions	Contributions	(2)	(3)	(4)	(5)	(6)	(7)
I. Public Employees Contributory							
A. Local Government	30,746	5,826	36,572	90,028	130,508	220,536	
B. State and School	57,987	13,753	71,740	139,444	211,223	350,667	
C. Subtotal	88,733	19,579	108,312	229,472	341,731	571,203	
II. Public Employees Noncontributory							
A. Local Government	33,133	175,783	208,916	106,219	1,775,915	1,882,134	
B. State and School	92,424	540,231	632,655	386,433	7,421,761	7,808,194	
C. Subtotal	125,557	716,014	841,571	492,652	9,197,676	9,690,328	
III. Public Safety Contributory							
A. State	630	291	921	1,253	1,753	3,006	
B. Other Division A (2.5% COLA)	5,178	1,042	6,220	10,963	14,033	24,996	
C. Other Division A (4% COLA)	581	119	700	501	762	1,263	
D. Logan	187	0	187	812	1,394	2,206	
E. Other Division B (2.5% COLA)	1,934	338	2,272	1,241	2,094	3,335	
F. Other Division B (4% COLA)	208	151	359	728	1,145	1,873	
G. Subtotal	8,718	1,941	10,659	15,498	21,181	36,679	
IV. Public Safety Noncontributory							
A. State	1,480	21,740	23,220	5,258	413,616	418,874	
B. Other Division A (2.5% COLA)	3,309	19,228	22,537	17,276	377,197	394,473	
C. Other Division A (4% COLA)	903	5,331	6,234	2,723	107,685	110,408	
D. Salt Lake City	239	2,995	3,234	2,052	94,273	96,325	
E. Ogden	130	657	787	740	16,600	17,340	
F. Provo	1,193	162	1,355	6,996	10,043	17,039	
G. Logan	72	20	92	2,314	5,790	8,104	
H. Bountiful	0	248	248	322	8,352	8,674	
I. Other Division B (2.5% COLA)	974	4,011	4,985	9,242	97,295	106,537	
J. Other Division B (4% COLA)	538	529	1,067	1,700	14,624	16,324	
K. Subtotal	8,838	54,921	63,759	48,623	1,145,475	1,194,098	
V. Firefighters							
A. Division A	1,770	1,139	2,909	18,604	51,399	70,003	
B. Division B	3,505	2,645	6,150	72,855	214,643	287,498	
C. Subtotal	5,275	3,784	9,059	91,459	266,042	357,501	
VI. Judges	461	1,523	1,984	5,341	69,396	74,737	
VII. Governors and Legislative	119	2,799	2,918	1	1,879	1,880	
VIII. Grand Total	237,701	800,561	1,038,262	883,046	11,043,380	11,926,426	

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	1,312	15	879	734	987	56	281	4,264
B. State and School	1,158	47	778	14	2,914	147	786	5,844
C. Subtotal	2,470	62	1,657	748	3,901	203	1,067	10,108
II. Public Employees Noncontributory								
A. Local Government	19,876	206	9,865	407	4,982	183	549	36,068
B. State and School	72,971	696	27,300	1,109	25,786	707	2,226	130,795
C. Subtotal	92,847	902	37,165	1,516	30,768	890	2,775	166,863
III. Public Safety Contributory								
A. State	8	0	15	14	172	17	138	364
B. Other Division A (2.5% COLA)	125	1	191	69	308	9	121	824
C. Other Division A (4% COLA)	6	0	27	4	102	1	47	187
D. Logan	10	0	4	1	28	1	2	46
E. Other Division B (2.5% COLA)	9	0	57	16	58	5	11	156
F. Other Division B (4% COLA)	7	1	4	0	23	0	3	38
G. Subtotal	165	2	298	104	691	33	322	1,615
IV. Public Safety Noncontributory								
A. State	2,514	12	1,145	2	1,063	31	124	4,891
B. Other Division A (2.5% COLA)	2,764	7	1,149	3	670	19	74	4,686
C. Other Division A (4% COLA)	718	3	267	0	166	0	16	1,170
D. Salt Lake City	480	2	117	1	357	18	92	1,067
E. Ogden	116	0	56	0	113	2	33	320
F. Provo	94	0	24	8	54	0	15	195
G. Logan	49	0	7	0	5	0	1	62
H. Bountiful	37	0	7	0	25	1	3	73
I. Other Division B (2.5% COLA)	670	4	227	4	120	4	11	1,040
J. Other Division B (4% COLA)	77	0	21	0	23	0	2	123
K. Subtotal	7,519	28	3,020	18	2,596	75	371	13,627
V. Firefighters								
A. Division A	528	0	122	37	82	18	19	806
B. Division B	1,371	0	135	102	761	67	221	2,657
C. Subtotal	1,899	0	257	139	843	85	240	3,463
VI. Judges	108	0	4	0	75	0	32	219
VII. Governors and Legislative	94	0	112	5	153	0	70	434
VIII. Grand Total	105,102	994	42,513	2,530	39,027	1,286	4,877	196,329

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	1,312	61,927	47,200	90,028	48.3	14.9
B. State and School	1,158	58,331	50,372	139,444	56.0	27.2
C. Subtotal	2,470	120,258	48,687	229,472	51.9	20.7
II. Public Employees Noncontributory						
A. Local Government	19,876	895,722	45,059	106,219	44.9	9.6
B. State and School	72,971	2,992,693	40,972	386,433	45.3	10.5
C. Subtotal	92,847	3,888,415	41,847	492,652	45.2	10.3
III. Public Safety Contributory						
A. State	8	418	52,295	1,253	56.6	23.1
B. Other Division A (2.5% COLA)	125	6,209	49,674	10,963	42.1	12.1
C. Other Division A (4% COLA)	6	279	46,468	501	44.0	13.3
D. Logan	10	513	51,341	812	38.7	13.5
E. Other Division B (2.5% COLA)	9	569	63,268	1,241	49.9	18.8
F. Other Division B (4% COLA)	7	410	58,606	728	43.1	13.9
G. Subtotal	165	8,398	50,906	15,498	43.1	13.2
IV. Public Safety Noncontributory						
A. State	2,514	116,939	46,515	5,258	41.0	10.2
B. Other Division A (2.5% COLA)	2,764	131,666	46,707	17,276	38.0	8.9
C. Other Division A (4% COLA)	718	30,290	46,889	2,723	38.4	9.7
D. Salt Lake City	480	27,454	57,195	2,052	39.0	10.0
E. Ogden	116	5,424	46,755	740	37.9	9.4
F. Provo	94	4,871	51,821	6,996	38.6	10.2
G. Logan	49	2,217	45,237	2,314	37.6	10.2
H. Bountiful	37	2,018	54,535	322	42.2	12.4
I. Other Division B (2.5% COLA)	670	34,630	51,686	9,242	38.2	8.7
J. Other Division B (4% COLA)	77	4,469	58,039	1,700	39.5	10.0
K. Subtotal	7,519	359,978	47,983	48,623	39.2	9.5
V. Firefighters						
A. Division A	528	26,998	51,132	18,604	38.3	7.4
B. Division B	1,371	78,343	57,143	72,855	39.7	11.2
C. Subtotal	1,899	105,341	55,472	91,459	39.3	10.1
VI. Judges	108	14,458	133,873	5,341	56.7	11.5
VII. Governors and Legislative	94	585	6,224	1	53.5	6.1
VIII. Grand Total	105,102	4,497,433	42,791	883,046	44.9	10.5

**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	1,324	16,000	1,007
B. State and School	3,847	46,382	1,005
C. Subtotal	5,171	62,382	1,005
II. Public Employees Noncontributory			
A. Local Government	5,714	105,248	1,535
B. State and School	28,719	621,034	1,802
C. Subtotal	34,433	726,282	1,758
III. Public Safety Contributory			
A. State	327	6,316	1,610
B. Other Division A (2.5% COLA)	438	9,152	1,741
C. Other Division A (4% COLA)	150	2,633	1,463
D. Logan	31	841	2,260
E. Other Division B (2.5% COLA)	74	1,821	2,050
F. Other Division B (4% COLA)	26	414	1,328
G. Subtotal	1,046	21,177	1,687
IV. Public Safety Noncontributory			
A. State	1,218	34,198	2,340
B. Other Division A (2.5% COLA)	763	21,234	2,319
C. Other Division A (4% COLA)	182	4,934	2,259
D. Salt Lake City	467	13,292	2,372
E. Ogden	148	3,435	1,934
F. Provo	69	1,979	2,390
G. Logan	6	202	2,803
H. Bountiful	29	794	2,280
I. Other Division B (2.5% COLA)	135	3,801	2,346
J. Other Division B (4% COLA)	25	866	2,886
K. Subtotal	3,042	84,735	2,321
V. Firefighters			
A. Division A	119	3,240	2,269
B. Division B	1,049	34,751	2,761
C. Subtotal	1,168	37,991	2,711
VI. Judges	107	7,435	5,791
VII. Governors and Legislative	223	773	289
VIII. Grand Total	45,190	940,775	1,735

**Market Value of Assets
(All Retirement Systems Combined)**

Item (1)	December 31, 2008 (2)	December 31, 2009 (2)
1. Cash	3,479	3,670
2. Receivables:		
a. Member contributions	858	898
b. Employer contributions	35,605	33,279
c. Fire insurance premium tax & court fees	230	10,345
d. Investments	<u>377,506</u>	<u>289,324</u>
e. Total	414,199	333,846
3. Investments		
a. Short-term securities – domestic	1,034,442	791,507
b. Short-term securities - international	6,256	12,593
c. Bonds - domestic	3,940,429	3,738,145
d. Bonds - international	637,127	782,717
e. Equities - domestic	3,245,247	4,473,180
f. Equities - international	1,874,535	2,631,259
g. Alternative investments	3,539,740	3,822,228
h. Real estate	3,280,056	2,799,042
i. Mortgage loans	<u>6,845</u>	<u>6,844</u>
j. Total	17,564,677	19,057,515
4. Other	1,105,879	1,438,571
5. Total assets	19,088,234	20,833,602
6. Liabilities		
a. Securities lending liability	(1,105,354)	(1,438,249)
b. Other accounting liabilities	(2,084,288)	(1,662,294)
c. Reserves	<u>(15,665)</u>	<u>(18,777)</u>
d. Total	(3,205,307)	(3,119,320)
7. Net assets	15,882,927	17,714,282

Note: Assets exclude 401(k) and 457 plans
Reserves include the Public Safety Retirees' Cost-of-Living Increases Restricted Account
Amounts shown are in \$ thousands
Amounts shown are from the December 31, 2009 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, 2008 (2)	Contributions (3)	Benefits and Refunds (4)	Earnings, Net of Expenses (5)	Transfers (6)	MVA as of Dec. 31, 2009 (7)
I. Public Employees Contributory						
A. Local Government	275,548	9,026	(17,098)	37,026	8,768	313,270
B. State and School	559,821	10,495	(49,910)	75,044	28,865	624,315
C. Subtotal	835,369	19,521	(67,009)	112,071	37,633	937,585
II. Public Employees Noncontributory						
A. Local Government	2,206,488	107,168	(106,325)	290,131	(6,417)	2,491,043
B. State and School	10,370,293	44,921	(619,536)	1,350,611	(12,022)	11,504,266
C. Subtotal	12,576,781	522,089	(725,861)	1,640,742	(18,439)	13,995,309
III. Public Safety Contributory						
A. State	42,999	127	(6,242)	6,070	6,575	49,529
B. Other Division A (2.5% COLA)	116,567	1,334	(9,320)	11,557	(26,995)	93,144
C. Other Division A (4% COLA)	0	85	(2,538)	2,693	23,278	23,517
D. Logan	8,801	140	(833)	1,190	622	9,920
E. Other Division B (2.5% COLA)	29,781	168	(1,837)	3,021	(6,454)	24,677
F. Other Division B (4% COLA)	0	221	(446)	651	5,595	6,021
G. Subtotal	198,148	2,074	(21,217)	25,182	2,622	206,809
IV. Public Safety Noncontributory						
A. State	529,949	34,895	(34,728)	69,145	(4,492)	594,769
B. Other Division A (2.5% COLA)	552,602	30,657	(21,423)	60,474	(106,801)	515,510
C. Other Division A (4% COLA)	0	7,903	(4,931)	13,567	110,695	127,234
D. Salt Lake City	144,673	9,928	(13,427)	18,838	510	160,521
E. Ogden	36,806	1,757	(3,353)	4,744	7	39,961
F. Provo	25,393	1,546	(1,952)	3,312	(60)	28,239
G. Logan	5,939	632	(199)	739	(591)	6,520
H. Bountiful	12,750	434	(883)	1,649	14	13,967
I. Other Division B (2.5% COLA)	104,657	9,143	(3,718)	12,343	(14,369)	108,055
J. Other Division B (4% COLA)	0	1,315	(837)	2,087	17,044	19,610
K. Subtotal	1,412,769	98,212	(85,451)	186,898	1,957	1,614,387
V. Firefighters						
A. Division A	78,245	6,145	(3,532)	10,583	(15)	91,427
B. Division B	534,454	21,287	(35,009)	68,874	1,188	590,791
C. Subtotal	612,699	27,432	(38,540)	79,457	1,173	682,218
VI. Judges	100,895	4,251	(7,594)	13,148	1,026	111,727
VII. Governors and Legislative	8,675	0	(780)	1,093	9	8,995
VIII. 3% Substantial Substitute	137,590	27,318	(70)	18,395	(25,982)	157,252
IX. Grand Total	15,882,926	700,896	(946,523)	2,076,987	0	17,714,282

Notes: 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	15,882,922	19,853,653
2. Contributions to fund during year	700,896	700,896
3. Benefit payments during year (including refunds of contributions)	(946,523)	(946,523)
4. Transfers to and (from) URS	0	0
5. Investment income, net of investment and administrative expenses	2,076,987	1,206,915
6. End of year assets	17,714,282	20,814,941
7. Investment return rate	13.2%	6.1%

Note: Amounts shown are in \$ thousands

Summary of Investment Return Rates

Year	Return on Market Value	Return on Actuarial Value
(1)	(2)	(3)
1991	21.5%	11.4%
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%
Average return		
Last 5 years:	2.9%	7.2%
Last 10 years:	3.9%	6.5%
Last 15 years:	7.6%	8.6%

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

1. Market value of assets 17,714,282

2. Adjustments to smooth asset values based on
 excess/shortfall of expected investment income for:

<u>Year</u>	<u>Total Excess/(Shortfall)</u>	<u>Weight Subtracted</u>	<u>Weighted Amount</u>
a. 2009	855,579	80%	684,463
b. 2008	(6,489,978)	60%	(3,893,987)
c. 2007	(286,308)	40%	(114,523)
d. 2006	1,116,942	20%	223,388
e. 2005	199,197	0%	<u>0</u>
f. Total			(3,100,659)

3. Preliminary actuarial value of assets (1-2f) 20,814,941

4. Corridor Limits

a. 75% of market value 13,285,712

b. 125% of market value 22,142,853

c. Actuarial value (Item 3, not more than 4b, not less than 4a) 20,814,941

5. Ratio of actuarial value to market value 117.5%

Note: Amounts shown are in \$ thousands

Transfer Adjustments to Asset Values

Fund/Division (1)	Market Value of Assets (MVA) at January 1, 2010			Actuarial Value of Assets (AVA) at January 1, 2010		
	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	313,270	(1,720)	311,550	369,999	(2,032)	367,967
B. State and School	624,315	4,040	628,355	744,019	4,749	748,768
C. Subtotal	937,585	2,320	939,905	1,114,018	2,717	1,116,735
II. Public Employees Noncontributory						
A. Local Government	2,491,043	1,720	2,492,763	2,914,687	2,032	2,916,719
B. State and School	11,504,266	(4,040)	11,500,226	13,522,644	(4,749)	13,517,895
C. Subtotal	13,995,309	(2,320)	13,992,989	16,437,331	(2,717)	16,434,614
III. Public Safety Contributory						
A. State	49,529	678	50,207	60,137	793	60,930
B. Other Division A (2.5% COLA)	93,144	13,976	107,120	115,554	16,422	131,976
C. Other Division A (4% COLA)	23,517	1,185	24,702	28,058	1,393	29,451
D. Logan	9,920	145	10,065	11,853	166	12,019
E. Other Division B (2.5% COLA)	24,677	(104)	24,573	30,493	(122)	30,371
F. Other Division B (4% COLA)	6,021	90	6,111	7,041	106	7,147
G. Subtotal	206,809	15,971	222,779	253,136	18,758	271,894
IV. Public Safety Noncontributory						
A. State	594,769	(678)	594,091	695,917	(793)	695,124
B. Other Division A (2.5% COLA)	515,510	(18,650)	496,859	597,003	(21,915)	575,088
C. Other Division A (4% COLA)	127,234	3,489	130,723	147,940	4,100	152,041
D. Salt Lake City	160,521	0	160,521	188,761	0	188,761
E. Ogden	39,961	0	39,961	47,334	0	47,334
F. Provo	28,239	0	28,239	33,227	0	33,227
G. Logan	6,520	(145)	6,375	7,481	(166)	7,315
H. Bountiful	13,967	0	13,967	16,476	0	16,476
I. Other Division B (2.5% COLA)	108,055	104	108,159	123,475	122	123,597
J. Other Division B (4% COLA)	19,610	(90)	19,520	22,786	(106)	22,681
K. Subtotal	1,614,387	(15,971)	1,598,416	1,880,400	(18,758)	1,861,644
V. Firefighters						
A. Division A	91,427	0	91,427	106,035	0	106,035
B. Division B	590,791	0	590,791	696,541	0	696,541
C. Subtotal	682,218	0	682,218	802,576	0	802,576
VI. Judges	111,727	0	111,727	131,491	0	131,491
VII. Governors and Legislative	8,995	0	8,995	10,770	0	10,770
VIII. 3% Substantial Substitute	157,252	0	157,252	185,219	0	185,219
IX. Grand Total	17,714,282	0	17,714,282	20,814,941	0	20,814,943

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	306,883
b. Inactives	14,300
c. Actives	<u>183,843</u>
d. Total	505,026
2. Actuarial value of assets	185,219
3. Unfunded actuarial accrued liability	319,807
4. Covered compensation of state funds that will pay for benefit	3,270,313
5. Calculated rate (24-year funding period and 4.00% PGR)	0.61%

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	4,622	838	6,002	11,462
B. State and School	11,842	2,141	11,216	25,198
C. Subtotal	16,464	2,979	17,218	36,660
II. Public Employees Noncontributory				
A. Local Government	33,188	2,527	25,884	61,599
B. State and School	203,293	7,774	124,103	335,171
C. Subtotal	236,481	10,301	149,987	396,770
III. Public Safety Contributory				
A. State	1,653	27	99	1,779
B. Other Division A (2.5% COLA)	3,027	91	426	3,544
C. Other Division A (4% COLA)	793	17	9	820
D. Logan	314	2	0	316
E. Other Division B (2.5% COLA)	740	33	34	807
F. Other Division B (4% COLA)	167	4	0	171
G. Subtotal	6,694	174	568	7,437
IV. Public Safety Noncontributory				
A. State	13,080	254	3,749	17,082
B. Other Division A (2.5% COLA)	7,764	198	2,992	10,953
C. Other Division A (4% COLA)	1,923	77	595	2,595
D. Salt Lake City	4,633	24	832	5,489
E. Ogden	1,245	8	161	1,414
F. Provo	684	17	199	900
G. Logan	90	0	77	167
H. Bountiful	301	7	127	435
I. Other Division B (2.5% COLA)	1,515	69	708	2,292
J. Other Division B (4% COLA)	370	20	231	621
K. Subtotal	31,605	674	9,671	41,948
V. Firefighters				
A. Division A	1,094	12	794	1,900
B. Division B	12,212	96	4,132	16,440
C. Subtotal	13,306	108	4,926	18,340
VI. Judges	2,187	17	1,457	3,661
VII. Governors and Legislative	145	48	14	208
VIII. Grand Total	306,882	14,301	183,841	505,024

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	6,506,956
b. Inactives	2,918,042
c. Actives	<u>1,879,653</u>
d. Total	11,304,651
2. Actuarial Value of Assets	10,770,000
3. Unfunded Actuarial Accrued Liability (UAAL) (1d) - (2)	534,651
4. Normal Cost	136,346
5. Total Recommended Appropriation Payable by June 30, 2012	
a. Normal Cost	136,346
b. Amortization Charge	<u>48,042</u>
c. Subtotal	184,388
d. Interest Adjustment (two years at 7.75%)	<u>29,688</u>
e. Total	214,076

**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)						
1990	20,773	8,984	13,029	42,786	428,720	20,638	55,504	355	Not Available	954,900
1991	15,784	892	12,331	29,007	340,524	21,574	56,673	383	803,332	796,016
1992	12,430	1,629	12,275	26,334	287,907	23,162	57,306	389	867,300	785,115
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

**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)						
1990	43,981	9,783	4,421	58,185	940,325	21,380	56,500	1,064	Not Available	2,100,892
1991	50,245	15,373	5,206	70,824	1,061,835	21,133	68,032	1,089	2,618,017	2,594,245
1992	58,836	8,042	6,114	72,992	1,329,925	22,604	76,871	1,048	3,345,871	3,041,640
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

**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)						
1990	2,612	713	1,194	4,519	65,978	25,260	13,139	917	Not Available	330,407
1991	1,641	520	1,190	3,351	42,496	25,896	13,530	948	240,788	241,347
1992	1,644	709	1,237	3,590	44,469	27,049	14,290	963	289,472	263,237
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

**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)						
1990	1,512	32	15	1,559	37,798	24,999	229	917	Not Available	330,407
1991	2,697	154	65	2,916	68,205	25,290	997	1,278	136,287	132,275
1992	3,006	174	120	3,300	76,914	25,587	1,939	1,346	179,950	162,737
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

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

Plan Year Beginning January 1st	Participant Counts				Covered Payroll (\$ Thousands)	Average Pay	Retirement Benefits in Force Annual Amount (\$ Thousands)	Average Retiree Monthly Benefit	Market Value of Assets (\$ Thousands)	Actuarial Value of Assets (\$ Thousands)
	Active	Inactive	Retired	Total						
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1990	993	76	544	1,613	28,661	28,863	6,626	1,015	Not Available	149,672
1991	1,024	66	553	1,643	30,649	29,932	7,134	1,075	163,428	161,945
1992	1,047	82	575	1,704	33,232	31,740	7,672	1,112	202,726	183,352
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

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

Plan Year Beginning January 1st	Participant Counts				Covered Payroll (\$ Thousands)	Average Pay	Retirement Benefits in Force Annual Amount (\$ Thousands)	Average Retiree Monthly Benefit	Market Value of Assets (\$ Thousands)	Actuarial Value of Assets (\$ Thousands)
	Active	Inactive	Retired	Total						
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1990	90	0	50	140	5,283	58,700	826	1,015	Not Available	19,127
1991	87	0	46	133	5,867	67,438	827	1,499	22,432	22,242
1992	89	0	53	142	6,267	70,416	1,087	1,710	28,765	26,167
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

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

Plan Year Beginning January 1st	Participant Counts				Covered Payroll (\$ Thousands)	Average Pay	Retirement Benefits in Force Annual Amount (\$ Thousands)	Average Retiree Monthly Benefit	Market Value of Assets (\$ Thousands)	Actuarial Value of Assets (\$ Thousands)
	Active	Inactive	Retired	Total						
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1990	76	133	162	371	288	3,789	329	169	Not Available	6,007
1991	57	118	150	325	238	4,172	295	164	6,427	6,355
1992	87	127	173	387	254	2,925	369	178	7,584	6,790
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

APPENDIX 1

STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS

1. *Investment return rate:*

7.75% per annum, compounded annually, composed of a 3.00% inflation rate and a 4.75% real rate of return, net of 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 Firefighters ¹
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 ¹	Firefighters ¹
20	.000220	.000240	.000120	.000400	.000450
25	.000330	.000360	.000180	.000600	.000675
30	.000660	.000720	.000360	.001200	.001350
35	.000990	.001080	.000540	.001800	.002025
40	.001320	.001440	.000720	.002400	.002700
45	.002200	.002400	.001200	.004000	.004500
50	.002860	.003120	.001560	.005200	.005850
55	.004510	.004920	.002460	.008200	.009225
60	.006160	.006720	.003360	.011200	.012600

Active Female Members			
Age	Local Government	Public Employees	Public Educators
20	.000220	.000240	.000120
25	.000330	.000360	.000180
30	.000660	.000720	.000360
35	.000990	.001080	.000540
40	.001320	.001440	.000720
45	.002200	.002400	.001200
50	.002860	.003120	.001560
55	.004510	.004920	.002460
60	.006160	.006720	.003360

¹ Males and female combined.

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

Termination rates are a function of the member’s sex, occupation, age 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. Rates at selected ages are shown:

Active Male Members - Local Government						
Years of Service						
Age	0	1	2	3	4	5+
20	0.2262	0.2154	0.1750	0.1219	0.0688	0.1096
25	0.1884	0.1795	0.1470	0.1016	0.0562	0.0815
30	0.1588	0.1514	0.1250	0.0873	0.0498	0.0605
35	0.1373	0.1308	0.1092	0.0793	0.0494	0.0463
40	0.1235	0.1177	0.1004	0.0778	0.0550	0.0381
45	0.1184	0.1128	0.0993	0.0834	0.0675	0.0334
50	0.1228	0.1169	0.1069	0.0972	0.0877	0.0311
55	0.1383	0.1317	0.1243	0.1206	0.1168	0.0336
60	0.1452	0.1383	0.1306	0.1266	0.1227	0.0352
65	0.1525	0.1452	0.1371	0.1329	0.1288	0.0370
70	0.1670	0.1590	0.1500	0.1455	0.1410	0.0405

Active Female Members - Local Government						
Years of Service						
Age	0	1	2	3	4	5+
20	0.2924	0.2525	0.2220	0.2004	0.1903	0.1881
25	0.2766	0.2262	0.1899	0.1672	0.1586	0.1316
30	0.2572	0.2006	0.1613	0.1386	0.1317	0.0895
35	0.2352	0.1764	0.1365	0.1147	0.1094	0.0618
40	0.2125	0.1547	0.1164	0.0963	0.0925	0.0473
45	0.1922	0.1381	0.1027	0.0844	0.0814	0.0422
50	0.1799	0.1293	0.0966	0.0795	0.0768	0.0421
55	0.1825	0.1319	0.0986	0.0816	0.0795	0.0432
60	0.2066	0.1488	0.1093	0.0905	0.0898	0.0443
65	0.2558	0.1816	0.1286	0.1060	0.1080	0.0453
70	0.3311	0.2309	0.1564	0.1278	0.1338	0.0461

4. Termination rates (continued):

Active Male Members - Public Employees						
Years of Service						
Age	0	1	2	3	4	5+
20	0.4502	0.3451	0.2749	0.2342	0.2043	0.1639
25	0.3536	0.2884	0.2342	0.1906	0.1520	0.1185
30	0.2903	0.2412	0.1949	0.1531	0.1154	0.0832
35	0.2525	0.2017	0.1573	0.1210	0.0937	0.0578
40	0.2279	0.1673	0.1224	0.0944	0.0832	0.0410
45	0.2067	0.1376	0.0934	0.0743	0.0791	0.0304
50	0.1841	0.1154	0.0752	0.0630	0.0776	0.0243
55	0.1590	0.1038	0.0724	0.0637	0.0772	0.0242
60	0.1322	0.1060	0.0888	0.0794	0.0778	0.0324
65	0.1388	0.1112	0.0933	0.0833	0.0817	0.0340
70	0.1440	0.1154	0.0968	0.0865	0.0848	0.0354

Active Female Members - Public Employees						
Years of Service						
Age	0	1	2	3	4	5+
20	0.3305	0.3401	0.3253	0.2909	0.2521	0.2804
25	0.3044	0.2875	0.2594	0.2262	0.1946	0.1870
30	0.2740	0.2367	0.2012	0.1706	0.1464	0.1187
35	0.2411	0.1909	0.1527	0.1265	0.1087	0.0756
40	0.2088	0.1552	0.1186	0.0963	0.0836	0.0526
45	0.1808	0.1324	0.1004	0.0815	0.0719	0.0405
50	0.1610	0.1218	0.0956	0.0799	0.0733	0.0343
55	0.1524	0.1218	0.1008	0.0890	0.0870	0.0334
60	0.1579	0.1316	0.1136	0.1065	0.1121	0.0375
65	0.1788	0.1514	0.1332	0.1313	0.1492	0.0465
70	0.2153	0.1815	0.1595	0.1634	0.1975	0.0602

4. Termination rates (continued):

Active Male Members - Public Educators						
Years of Service						
Age	0	1	2	3	4	5+
20	0.1649	0.1585	0.1471	0.0930	0.0390	0.0889
25	0.1498	0.1361	0.1220	0.0871	0.0523	0.0629
30	0.1268	0.1175	0.1025	0.0823	0.0622	0.0430
35	0.1195	0.1027	0.0885	0.0785	0.0685	0.0290
40	0.1130	0.0926	0.0795	0.0756	0.0719	0.0208
45	0.1152	0.0895	0.0744	0.0733	0.0721	0.0162
50	0.1343	0.0958	0.0726	0.0711	0.0696	0.0125
55	0.1764	0.1131	0.0728	0.0685	0.0643	0.0093
60	0.1853	0.1188	0.0765	0.0720	0.0675	0.0098
65	0.1946	0.1248	0.0802	0.0756	0.0709	0.0103
70	0.2131	0.1366	0.0880	0.0828	0.0776	0.0113

Active Female Members - Public Educators						
Years of Service						
Age	0	1	2	3	4	5+
20	0.2727	0.2674	0.2532	0.2392	0.1783	0.1920
25	0.2257	0.1962	0.1877	0.1791	0.1449	0.1304
30	0.1587	0.1442	0.1368	0.1292	0.1140	0.0838
35	0.1228	0.1093	0.0970	0.0895	0.0856	0.0521
40	0.1187	0.0885	0.0693	0.0616	0.0622	0.0347
45	0.1135	0.0786	0.0570	0.0468	0.0467	0.0274
50	0.1024	0.0765	0.0590	0.0470	0.0406	0.0245
55	0.0834	0.0804	0.0740	0.0617	0.0447	0.0243
60	0.0877	0.0845	0.0777	0.0648	0.0470	0.0255
65	0.0920	0.0886	0.0816	0.0679	0.0492	0.0268
70	0.0964	0.0929	0.0856	0.0713	0.0517	0.0281

4. Termination rates (continued):

Active Male and Female Members - Public Safety						
Years of Service						
Age	0	1	2	3	4	5+
20	0.1277	0.1062	0.0781	0.0752	0.0710	0.0977
25	0.1076	0.0868	0.0633	0.0624	0.0590	0.0693
30	0.1026	0.0769	0.0527	0.0509	0.0481	0.0469
35	0.1128	0.0766	0.0461	0.0409	0.0386	0.0308
40	0.1370	0.0851	0.0432	0.0323	0.0305	0.0205
45	0.1735	0.1008	0.0431	0.0256	0.0242	0.0152
50	0.2206	0.1220	0.0455	0.0213	0.0202	0.0130
55	0.2764	0.1472	0.0497	0.0202	0.0190	0.0129
60	0.3399	0.1756	0.0557	0.0222	0.0210	0.0140
65	0.3740	0.2070	0.0635	0.0280	0.0265	0.0163
70	0.4114	0.2415	0.0732	0.0373	0.0352	0.0196

Years of Service	Active Male and Female Members - Firefighters
0	0.090
1	0.025
2	0.025
3	0.025
4	0.025
5	0.015
6	0.015
7	0.015
8	0.015
9	0.015
10	0.015
11	0.015
12	0.000
13	0.000
14	0.000
15+	0.000

5. *Refund rates:*

The percent of vested members electing to receive a refund of contributions on 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, service, sex and occupation. 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 70 (age 65 for the public safety and firefighter systems). Sample rates are shown below. Retirement rates shown for local government, public employees and public educators below age 60 for 25-29 years of service apply only to noncontributory members.

Local Government - Males							
	Years of Service						
Age	0-3	4-9	10-14	15-19	20-24	25-29	30+
45	0.000	0.000	0.000	0.000	0.000	0.025	0.160
46	0.000	0.000	0.000	0.000	0.000	0.025	0.160
47	0.000	0.000	0.000	0.000	0.000	0.025	0.160
48	0.000	0.000	0.000	0.000	0.000	0.025	0.160
49	0.000	0.000	0.000	0.000	0.000	0.025	0.160
50	0.000	0.000	0.000	0.000	0.000	0.025	0.220
51	0.000	0.000	0.000	0.000	0.000	0.025	0.220
52	0.000	0.000	0.000	0.000	0.000	0.025	0.220
53	0.000	0.000	0.000	0.000	0.000	0.025	0.220
54	0.000	0.000	0.000	0.000	0.000	0.025	0.220
55	0.000	0.000	0.000	0.000	0.000	0.050	0.220
56	0.000	0.000	0.000	0.000	0.000	0.050	0.220
57	0.000	0.000	0.000	0.000	0.000	0.050	0.220
58	0.000	0.000	0.000	0.000	0.000	0.050	0.220
59	0.000	0.000	0.000	0.000	0.000	0.050	0.220
60	0.000	0.000	0.000	0.000	0.100	0.100	0.250
61	0.000	0.000	0.000	0.000	0.100	0.100	0.150
62	0.000	0.000	0.300	0.300	0.250	0.150	0.500
63	0.000	0.000	0.200	0.150	0.150	0.250	0.300
64	0.000	0.000	0.200	0.150	0.150	0.250	0.300
65	0.000	0.200	0.350	0.450	0.450	0.500	0.500
66	0.000	0.200	0.200	0.200	0.200	0.200	0.300
67	0.000	0.200	0.200	0.200	0.200	0.200	0.300
68	0.000	0.200	0.200	0.200	0.200	0.200	0.300
69	0.000	0.200	0.200	0.200	0.200	0.200	0.300
70	0.000	1.000	1.000	1.000	1.000	1.000	1.000

6. Retirement rates (continued):

Public Employees – Males							
Age	Years of Service						
	0-3	4-9	10-14	15-19	20-24	25-29	30+
45	0.000	0.000	0.000	0.000	0.000	0.020	0.140
46	0.000	0.000	0.000	0.000	0.000	0.020	0.140
47	0.000	0.000	0.000	0.000	0.000	0.020	0.140
48	0.000	0.000	0.000	0.000	0.000	0.020	0.140
49	0.000	0.000	0.000	0.000	0.000	0.020	0.140
50	0.000	0.000	0.000	0.000	0.000	0.030	0.160
51	0.000	0.000	0.000	0.000	0.000	0.030	0.160
52	0.000	0.000	0.000	0.000	0.000	0.030	0.160
53	0.000	0.000	0.000	0.000	0.000	0.030	0.160
54	0.000	0.000	0.000	0.000	0.000	0.030	0.160
55	0.000	0.000	0.000	0.000	0.000	0.030	0.180
56	0.000	0.000	0.000	0.000	0.000	0.030	0.180
57	0.000	0.000	0.000	0.000	0.000	0.030	0.180
58	0.000	0.000	0.000	0.000	0.000	0.030	0.180
59	0.000	0.000	0.000	0.000	0.000	0.030	0.180
60	0.000	0.000	0.000	0.000	0.050	0.100	0.230
61	0.000	0.000	0.000	0.000	0.050	0.100	0.230
62	0.000	0.000	0.150	0.200	0.200	0.250	0.400
63	0.000	0.000	0.100	0.150	0.150	0.200	0.350
64	0.000	0.000	0.050	0.100	0.100	0.150	0.300
65	0.000	0.400	0.400	0.400	0.400	0.500	0.500
66	0.000	0.200	0.200	0.200	0.200	0.200	0.350
67	0.000	0.200	0.200	0.200	0.200	0.200	0.200
68	0.000	0.200	0.200	0.200	0.200	0.200	0.200
69	0.000	0.200	0.200	0.200	0.200	0.200	0.200
70	0.000	1.000	1.000	1.000	1.000	1.000	1.000

6. Retirement rates (continued):

Public Educators – Males							
Age	Years of Service						
	0-3	4-9	10-14	15-19	20-24	25-29	30+
45	0.000	0.000	0.000	0.000	0.000	0.010	0.250
46	0.000	0.000	0.000	0.000	0.000	0.010	0.250
47	0.000	0.000	0.000	0.000	0.000	0.010	0.250
48	0.000	0.000	0.000	0.000	0.000	0.010	0.250
49	0.000	0.000	0.000	0.000	0.000	0.010	0.250
50	0.000	0.000	0.000	0.000	0.000	0.010	0.250
51	0.000	0.000	0.000	0.000	0.000	0.010	0.250
52	0.000	0.000	0.000	0.000	0.000	0.010	0.250
53	0.000	0.000	0.000	0.000	0.000	0.010	0.250
54	0.000	0.000	0.000	0.000	0.000	0.010	0.250
55	0.000	0.000	0.000	0.000	0.000	0.020	0.250
56	0.000	0.000	0.000	0.000	0.000	0.020	0.250
57	0.000	0.000	0.000	0.000	0.000	0.020	0.250
58	0.000	0.000	0.000	0.000	0.000	0.020	0.250
59	0.000	0.000	0.000	0.000	0.000	0.020	0.250
60	0.000	0.000	0.000	0.000	0.050	0.050	0.350
61	0.000	0.000	0.000	0.000	0.100	0.100	0.350
62	0.000	0.000	0.150	0.150	0.250	0.250	0.650
63	0.000	0.000	0.100	0.100	0.150	0.150	0.350
64	0.000	0.000	0.050	0.050	0.150	0.150	0.350
65	0.000	0.250	0.250	0.300	0.400	0.500	0.700
66	0.000	0.200	0.200	0.250	0.250	0.250	0.300
67	0.000	0.200	0.200	0.250	0.250	0.250	0.300
68	0.000	0.200	0.200	0.250	0.250	0.250	0.300
69	0.000	0.200	0.200	0.250	0.250	0.250	0.300
70	0.000	1.000	1.000	1.000	1.000	1.000	1.000

6. Retirement rates (continued):

Local Government – Females							
	Years of Service						
Age	0-3	4-9	10-14	15-19	20-24	25-29	30+
45	0.000	0.000	0.000	0.000	0.000	0.040	0.300
46	0.000	0.000	0.000	0.000	0.000	0.040	0.300
47	0.000	0.000	0.000	0.000	0.000	0.040	0.300
48	0.000	0.000	0.000	0.000	0.000	0.040	0.300
49	0.000	0.000	0.000	0.000	0.000	0.040	0.300
50	0.000	0.000	0.000	0.000	0.000	0.040	0.300
51	0.000	0.000	0.000	0.000	0.000	0.040	0.300
52	0.000	0.000	0.000	0.000	0.000	0.040	0.300
53	0.000	0.000	0.000	0.000	0.000	0.040	0.300
54	0.000	0.000	0.000	0.000	0.000	0.040	0.300
55	0.000	0.000	0.000	0.000	0.000	0.040	0.350
56	0.000	0.000	0.000	0.000	0.000	0.040	0.350
57	0.000	0.000	0.000	0.000	0.000	0.040	0.350
58	0.000	0.000	0.000	0.000	0.000	0.040	0.350
59	0.000	0.000	0.000	0.000	0.000	0.040	0.350
60	0.000	0.000	0.000	0.000	0.130	0.130	0.400
61	0.000	0.000	0.000	0.000	0.130	0.130	0.250
62	0.000	0.000	0.200	0.250	0.250	0.250	0.450
63	0.000	0.000	0.150	0.200	0.200	0.200	0.300
64	0.000	0.000	0.200	0.250	0.250	0.250	0.300
65	0.000	0.350	0.350	0.350	0.350	0.400	0.500
66	0.000	0.200	0.200	0.200	0.200	0.200	0.300
67	0.000	0.200	0.200	0.200	0.200	0.200	0.300
68	0.000	0.200	0.200	0.200	0.200	0.200	0.300
69	0.000	0.200	0.200	0.200	0.200	0.200	0.300
70	0.000	1.000	1.000	1.000	1.000	1.000	1.000

6. Retirement rates (continued):

Public Employees – Females							
Age	Years of Service						
	0-3	4-9	10-14	15-19	20-24	25-29	30+
45	0.000	0.000	0.000	0.000	0.000	0.020	0.200
46	0.000	0.000	0.000	0.000	0.000	0.020	0.200
47	0.000	0.000	0.000	0.000	0.000	0.020	0.200
48	0.000	0.000	0.000	0.000	0.000	0.020	0.200
49	0.000	0.000	0.000	0.000	0.000	0.020	0.200
50	0.000	0.000	0.000	0.000	0.000	0.030	0.200
51	0.000	0.000	0.000	0.000	0.000	0.030	0.200
52	0.000	0.000	0.000	0.000	0.000	0.030	0.200
53	0.000	0.000	0.000	0.000	0.000	0.030	0.200
54	0.000	0.000	0.000	0.000	0.000	0.030	0.200
55	0.000	0.000	0.000	0.000	0.000	0.040	0.200
56	0.000	0.000	0.000	0.000	0.000	0.040	0.200
57	0.000	0.000	0.000	0.000	0.000	0.040	0.200
58	0.000	0.000	0.000	0.000	0.000	0.040	0.200
59	0.000	0.000	0.000	0.000	0.000	0.040	0.200
60	0.000	0.000	0.000	0.000	0.150	0.150	0.400
61	0.000	0.000	0.000	0.000	0.100	0.150	0.300
62	0.000	0.000	0.200	0.200	0.300	0.300	0.600
63	0.000	0.000	0.150	0.150	0.250	0.250	0.400
64	0.000	0.000	0.200	0.200	0.200	0.150	0.300
65	0.000	0.450	0.450	0.450	0.450	0.450	0.450
66	0.000	0.250	0.250	0.250	0.250	0.250	0.250
67	0.000	0.250	0.250	0.250	0.250	0.250	0.250
68	0.000	0.250	0.250	0.250	0.250	0.250	0.250
69	0.000	0.250	0.250	0.250	0.250	0.250	0.250
70	0.000	1.000	1.000	1.000	1.000	1.000	1.000

6. Retirement rates (continued):

Public Educators – Females							
Age	Years of Service						
	0-3	4-9	10-14	15-19	20-24	25-29	30+
45	0.000	0.000	0.000	0.000	0.000	0.010	0.160
46	0.000	0.000	0.000	0.000	0.000	0.010	0.160
47	0.000	0.000	0.000	0.000	0.000	0.010	0.160
48	0.000	0.000	0.000	0.000	0.000	0.010	0.160
49	0.000	0.000	0.000	0.000	0.000	0.010	0.160
50	0.000	0.000	0.000	0.000	0.000	0.010	0.200
51	0.000	0.000	0.000	0.000	0.000	0.010	0.200
52	0.000	0.000	0.000	0.000	0.000	0.010	0.200
53	0.000	0.000	0.000	0.000	0.000	0.010	0.200
54	0.000	0.000	0.000	0.000	0.000	0.010	0.200
55	0.000	0.000	0.000	0.000	0.000	0.030	0.300
56	0.000	0.000	0.000	0.000	0.000	0.030	0.300
57	0.000	0.000	0.000	0.000	0.000	0.030	0.300
58	0.000	0.000	0.000	0.000	0.000	0.030	0.300
59	0.000	0.000	0.000	0.000	0.000	0.030	0.300
60	0.000	0.000	0.000	0.000	0.150	0.150	0.500
61	0.000	0.000	0.000	0.000	0.150	0.150	0.500
62	0.000	0.000	0.200	0.200	0.200	0.250	0.700
63	0.000	0.000	0.150	0.150	0.150	0.150	0.500
64	0.000	0.000	0.150	0.150	0.150	0.150	0.500
65	0.000	0.450	0.450	0.450	0.450	0.500	0.600
66	0.000	0.300	0.300	0.350	0.350	0.350	0.350
67	0.000	0.300	0.300	0.350	0.350	0.350	0.350
68	0.000	0.300	0.300	0.350	0.350	0.350	0.350
69	0.000	0.300	0.300	0.350	0.350	0.350	0.350
70	0.000	1.000	1.000	1.000	1.000	1.000	1.000

6. Retirement rates (continued):

Public Safety - Males and Females							
	Years of Service						
Age	0-3	4-9	10-14	15-19	20-24	25-29	30+
45	0.00	0.00	0.00	0.00	0.15	0.15	0.30
46	0.00	0.00	0.00	0.00	0.15	0.15	0.30
47	0.00	0.00	0.00	0.00	0.15	0.15	0.30
48	0.00	0.00	0.00	0.00	0.15	0.15	0.30
49	0.00	0.00	0.00	0.00	0.15	0.15	0.30
50	0.00	0.00	0.00	0.00	0.16	0.16	0.33
51	0.00	0.00	0.00	0.00	0.16	0.16	0.33
52	0.00	0.00	0.00	0.00	0.16	0.16	0.33
53	0.00	0.00	0.00	0.00	0.16	0.16	0.33
54	0.00	0.00	0.00	0.00	0.16	0.16	0.33
55	0.00	0.00	0.00	0.00	0.18	0.20	0.35
56	0.00	0.00	0.00	0.00	0.18	0.20	0.35
57	0.00	0.00	0.00	0.00	0.18	0.20	0.35
58	0.00	0.00	0.00	0.00	0.18	0.20	0.35
59	0.00	0.00	0.00	0.00	0.18	0.20	0.35
60	0.00	0.00	0.12	0.12	0.30	0.30	0.38
61	0.00	0.00	0.12	0.12	0.30	0.30	0.38
62	0.00	0.00	0.12	0.12	0.30	0.30	0.38
63	0.00	0.00	0.12	0.12	0.30	0.30	0.38
64	0.00	0.00	0.12	0.12	0.30	0.30	0.38
65	0.00	1.00	1.00	1.00	1.00	1.00	1.00

6. Retirement rates (continued):

Firefighters - Males and Females							
	Years of Service						
Age	0-3	4-9	10-14	15-19	20-24	25-29	30+
45	0.00	0.00	0.00	0.00	0.10	0.10	0.14
46	0.00	0.00	0.00	0.00	0.10	0.10	0.14
47	0.00	0.00	0.00	0.00	0.10	0.10	0.14
48	0.00	0.00	0.00	0.00	0.10	0.10	0.14
49	0.00	0.00	0.00	0.00	0.10	0.10	0.14
50	0.00	0.00	0.00	0.00	0.12	0.12	0.16
51	0.00	0.00	0.00	0.00	0.12	0.12	0.16
52	0.00	0.00	0.00	0.00	0.12	0.12	0.16
53	0.00	0.00	0.00	0.00	0.12	0.12	0.16
54	0.00	0.00	0.00	0.00	0.12	0.12	0.16
55	0.00	0.00	0.00	0.00	0.14	0.14	0.18
56	0.00	0.00	0.00	0.00	0.14	0.14	0.18
57	0.00	0.00	0.00	0.00	0.14	0.14	0.18
58	0.00	0.00	0.00	0.00	0.14	0.14	0.18
59	0.00	0.00	0.00	0.00	0.14	0.14	0.18
60	0.00	0.00	0.12	0.16	0.24	0.24	0.24
61	0.00	0.00	0.12	0.16	0.24	0.24	0.24
62	0.00	0.00	0.12	0.16	0.24	0.24	0.24
63	0.00	0.00	0.12	0.16	0.24	0.24	0.24
64	0.00	0.00	0.12	0.16	0.24	0.24	0.24
65	0.00	1.00	1.00	1.00	1.00	1.00	1.00

6. Retirement rates (continued):

Judges - Males and Females							
	Years of Service						
Age	0-3	4-9	10-14	15-19	20-24	25-29	30+
45	0.00	0.00	0.00	0.00	0.00	0.12	0.25
46	0.00	0.00	0.00	0.00	0.00	0.12	0.25
47	0.00	0.00	0.00	0.00	0.00	0.12	0.25
48	0.00	0.00	0.00	0.00	0.00	0.12	0.25
49	0.00	0.00	0.00	0.00	0.00	0.12	0.25
50	0.00	0.00	0.00	0.00	0.00	0.12	0.25
51	0.00	0.00	0.00	0.00	0.00	0.12	0.25
52	0.00	0.00	0.00	0.00	0.00	0.12	0.25
53	0.00	0.00	0.00	0.00	0.00	0.12	0.25
54	0.00	0.00	0.00	0.00	0.00	0.12	0.25
55	0.00	0.00	0.00	0.00	0.00	0.12	0.25
56	0.00	0.00	0.00	0.00	0.00	0.12	0.25
57	0.00	0.00	0.00	0.00	0.00	0.12	0.25
58	0.00	0.00	0.00	0.00	0.00	0.12	0.25
59	0.00	0.00	0.00	0.00	0.00	0.12	0.25
60	0.00	0.00	0.00	0.00	0.00	0.12	0.25
61	0.00	0.00	0.00	0.00	0.00	0.12	0.25
62	0.00	0.00	0.15	0.15	0.15	0.15	0.25
63	0.00	0.00	0.15	0.15	0.15	0.15	0.25
64	0.00	0.00	0.15	0.15	0.15	0.15	0.25
65	0.00	0.00	0.15	0.15	0.15	0.15	0.25
66	0.00	0.00	0.15	0.15	0.15	0.15	0.25
67	0.00	0.00	0.15	0.15	0.15	0.15	0.25
68	0.00	0.00	0.15	0.15	0.15	0.15	0.25
69	0.00	0.00	0.15	0.15	0.15	0.15	0.25
70	0.00	1.00	1.00	1.00	1.00	1.00	1.00

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 3.00% 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 3.00% Inflation Component and 1.00% General Increase Rate
0	6.75%	10.75%
1	5.00	9.00
2	4.25	8.25
3	3.50	7.50
4	3.00	7.00
5	2.75	6.75
6	2.50	6.50
7	2.25	6.25
8	2.00	6.00
9	1.75	5.75
10	1.50	5.50
11	1.50	5.50
12	1.25	5.25
13	1.25	5.25
14	1.00	5.00
15	1.00	5.00
16	0.75	4.75
17	0.75	4.75
18	0.75	4.75
19	0.75	4.75
20	0.50	4.50
21	0.50	4.50
22	0.25	4.25
23	0.25	4.25
24	0.25	4.25
25 or more	0.00	4.00

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 3.00% Inflation Component and 1.00% General Increase Rate
0	5.50%	9.50%
1	4.75	8.75
2	3.50	7.50
3	3.00	7.00
4	2.50	6.50
5	2.25	6.25
6	2.00	6.00
7	1.75	5.75
8	1.50	5.50
9	1.50	5.50
10	1.25	5.25
11	1.00	5.00
12	1.00	5.00
13	1.00	5.00
14	0.75	4.75
15	0.75	4.75
16	0.75	4.75
17	0.50	4.50
18	0.50	4.50
19	0.50	4.50
20	0.25	4.25
21	0.25	4.25
22	0.25	4.25
23	0.25	4.25
24	0.25	4.25
25 or more	0.00	4.00

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 3.00% Inflation Component and 1.00% General Increase Rate
0	8.00%	12.00%
1	6.25	10.25
2	5.00	9.00
3	4.75	8.75
4	4.50	8.50
5	4.00	8.00
6	3.75	7.75
7	3.50	7.50
8	3.25	7.25
9	3.00	7.00
10	2.50	6.50
11	2.00	6.00
12	1.75	5.75
13	1.25	5.25
14	1.00	5.00
15	0.75	4.75
16	0.75	4.75
17	0.75	4.75
18	0.75	4.75
19	0.50	4.50
20	0.50	4.50
21	0.50	4.50
22	0.50	4.50
23	0.50	4.50
24	0.25	4.25
25 or more	0.00	4.00

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 3.00% Inflation Component and 1.00% General Increase Rate
0	5.75%	9.75%
1	4.00	8.00
2	3.75	7.75
3	3.25	7.25
4	3.00	7.00
5	2.75	6.75
6	2.75	6.75
7	2.75	6.75
8	2.50	6.50
9	2.50	6.50
10	2.25	6.25
11	2.00	6.00
12	1.75	5.75
13	1.50	5.50
14	1.25	5.25
15	1.25	5.25
16	1.00	5.00
17	1.00	5.00
18	1.00	5.00
19	1.00	5.00
20	1.00	5.00
21	0.75	4.75
22	0.50	4.50
23	0.50	4.50
24	0.25	4.25
25 or more	0.00	4.00

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 3.00% Inflation Component and 1.00% General Increase Rate
0	6.25%	10.25%
1	5.75	9.75
2	5.50	9.50
3	5.25	9.25
4	5.00	9.00
5	4.75	8.75
6	4.50	8.50
7	4.25	8.25
8	4.00	8.00
9	3.50	7.50
10	3.00	7.00
11	2.50	6.50
12	2.25	6.25
13	2.00	6.00
14	1.75	5.75
15	1.75	5.75
16	1.50	5.50
17	1.50	5.50
18	1.25	5.25
19	1.00	5.00
20	0.75	4.75
21	0.75	4.75
22	0.50	4.50
23	0.00	4.00
24	0.00	4.00
25 or more	0.00	4.00

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

Retired Male Members			
Age	Local Government and Public Employees (80% of RP-2000 Males, combined)	Public Educators (Based on Plan Experience, Effective January 1, 2008)	Public Safety and Firefighters (80% of RP-2000 Males, combined)
20	.000276	.000436	.000276
25	.000301	.000569	.000301
30	.000355	.000690	.000355
35	.000618	.000732	.000618
40	.000863	.000922	.000863
45	.001206	.001358	.001206
50	.001710	.002218	.001710
55	.002899	.003806	.002899
60	.005398	.003581	.005398
65	.010190	.004568	.010190
70	.017765	.011982	.017765
75	.030267	.019933	.030267
80	.051494	.039454	.051494
85	.088606	.078258	.088606
90	.146726	.137016	.146726
95	.213993	.207802	.213993

Retired Female Members			
Age	Local Government and Public Employees (85% of RP-2000 Females, Combined)	Public Educators (Based on Plan Experience, Effective January 1, 2008)	Public Safety and Firefighters (85% of RP-2000 Females, combined)
20	.000162	.000274	.000162
25	.000176	.000282	.000176
30	.000224	.000339	.000224
35	.000404	.000463	.000404
40	.000600	.000687	.000600
45	.000955	.000941	.000955
50	.001425	.001382	.001425
55	.002309	.003391	.002309
60	.004297	.004245	.004297
65	.008250	.003924	.008250
70	.014231	.008067	.014231
75	.023890	.012800	.023890
80	.038997	.028558	.038997
85	.065829	.066564	.065829
90	.111930	.124727	.111930
95	.165333	.190840	.165333

9. *Disabled annuitant mortality rates:*

Disabled Retired Male and Female Members		
Age	Males	Females
20	.005542	.005542
25	.008296	.008296
30	.010472	.010472
35	.012724	.012724
40	.015079	.015079
45	.017867	.017867
50	.020808	.020808
55	.024429	.024429
60	.028441	.028441
65	.032563	.032563
70	.037842	.037842
75	.049113	.049113
80	.078574	.078574
85	.117699	.117699
90	.166583	.166583
95	.233894	.233894
100	.336796	.336796

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 that it will decrease by one in each subsequent valuation, until the period reaches 20 years, at which point the amortization period will revert to a 20-year open period, as was in effect prior to 2009.) The funding period is set by the Board of Trustees.

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 4.00%. 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:*

No explicit assumption is made regarding administrative or investment expenses. The assumed 7.75% return is net of any such expenses.

15. *Judges System:*

For the Judges System, no disability or withdrawal rates were used. Salaries are assumed to increase at 4.00% 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 7.75% 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. *Cost-of-living increases:*

Since a 3.00% inflation rate is assumed (see investment return rate above), retirement benefits for all systems with a maximum 4% COLA are assumed to increase at 3.00% even though the maximum allowable rate is 4%. Retirement benefits for the funds in the Public Safety System with a maximum 2.5% COLA 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.
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	48.60%
63	94.00%	53	44.44%
62	91.00%	52	40.67%
61	88.00%	51	37.26%
60	85.00%	50	34.16%
59	77.20%	49	31.34%
58	70.21%	48	28.77%
57	63.93%	47	26.43%
56	58.28%	46	24.30%
55	53.19%	45	22.35%

- 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 a refund benefit.

14. *Death while an Active Member:*
- a. In General: A refund of the member's accumulated contributions (with interest) is paid to the beneficiary of a deceased member.
 - 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 Plan 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 Plan 3 benefit if the member has at least 15 and less than 20 years of service, and 2/3 of the Plan 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 "Plan 1" form. The six optional forms are:
- Plan 1 - A life annuity with no benefits due following the member's death.
- Plan 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.)
- Plan 3 - Joint and 100% Survivor Annuity. An annuity payable as long as either the member or his/her spouse is living.
- Plan 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.
- Plan 5 - Joint and 100% Pop-up Annuity. Same as Plan 3, except that the benefit amount reverts to the Plan 1 (life annuity) amount if the member's spouse predeceases the member.
- Plan 6 - Joint and 50% Pop-up Annuity. Same as Plan 4, except that the benefit amount reverts to the Plan 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.
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 (simple interest).
- 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.
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	89.92%	59	54.19%
63	81.00%	58	49.18%
62	73.09%	57	44.69%
61	66.05%	56	40.66%
60	59.78%	55	37.03%

- 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.
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, 2010, the benefit base is therefore \$27.00.
 - 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, 2010, the benefit base is therefore \$1,230.00.
 - 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.
 - 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.

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.