October 30, 2001

# PERSONAL AND CONFIDENTIAL 

Board of Trustees
Kentucky Retirement Systems
Perimeter Park West
1260 Louisville Road
Frankfort, Kentucky 40601
Members of the Board:

The forty-fifth annual actuarial valuation of the Kentucky Employees Retirement System, the forty-second annual actuarial valuation of the County Employees Retirement System, and the forty-third annual actuarial valuation of the State Police Retirement System have been completed and the reports prepared. The valuations were made on the basis of data provided by the Retirement System as of June 30, 2001.

On the basis of the assumptions as stated in each report and the data furnished us by the Administration of the Retirement Systems, it is certified that the valuations have been made by the use of generally accepted actuarial principles and that, if the recommendations of the reports are followed, adequate provision will be made for the funding of future benefits.

The three Retirement Systems are actuarially sound based on the continuation of current funding policies adopted by the Board. Adequate provision is being made for the funding of the Actuarial Accrued Liabilities of the Kentucky Employees Retirement System, the County Employees Retirement System, and the State Police Retirement System as required by the Kentucky Revised Statutes, as appropriate funding rates have been established by the Board for this purpose.

Respectfully Submitted, WILLIAM M. MERCER, INCORPORATED

By<br>Stephen A. Gagel, F.S.A.

SAG/lst

# ANNUAL ACTUARIAL VALUATION 

JUNE 30, 2001

## KENTUCKY EMPLOYEES RETIREMENT SYSTEM

COUNTY EMPLOYEES RETIREMENT SYSTEM

STATE POLICE RETIREMENT SYSTEM

## FRANKFORT, KENTUCKY

Prepared by:
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## FORTY-FIFTH ANNUAL ACTUARIAL VALUATION

JUNE 30, 2001

## KENTUCKY EMPLOYEES RETIREMENT SYSTEM

FRANKFORT, KENTUCKY

## SECTION I

## INTRODUCTION

The results of the forty-fifth annual actuarial valuation of the Kentucky Employees Retirement System are presented in this report. The actuarial valuation was made on the basis of the data provided by the System as of June 30, 2001.

The purpose of the actuarial valuation is to determine the actuarial condition of the Retirement System and the rate of employer contributions for the ensuing fiscal year required to support the System.

The plan provisions utilized in this valuation are described in the Summary of Principal Plan Provisions in Section VI. The basis of funding, as defined in KRS 61.565 , provides that the actuarial valuation method is uniform for all benefits provided by the System. The Entry Age Normal Actuarial cost method has been used for all benefits. KRS 61.565 provides that each employer participating in the System shall contribute an amount equal to the Normal Cost contribution rate, and an amount sufficient to amortize the Unfunded Actuarial Accrued Liability over 30 years using the level-percentage-of-payroll method. This is the standard used herein to determine whether the funding of the System is adequate.

The actuarial valuation results are based upon the employee census and asset data supplied by the office of the System, and upon the actuarial assumptions as stated in Section II.

## SECTION II

## ACTUARIAL CONSIDERATIONS

## Description of Actuarial Methods

The actuarial valuation is the means by which the contingent liabilities and contribution rates of a retirement system are evaluated and determined. It provides a guide to the System to the financing required during years of active service to accumulate the funds needed to provide member's benefits. It also makes it possible to estimate beforehand the cost of proposed changes in the System so that action can be taken in the light of the cost consequences.

The methods of valuation are prescribed by KRS 61.565. The Entry Age Normal Cost Method was used to determine costs of all benefits with the exception of the retiree medical insurance benefit. Under this method the employer's contribution to the retirement system consists of Normal Cost, a payment to fund the Unfunded Actuarial Accrued Liability, medical insurance, and administrative expenses. The Normal Cost represents the contribution (as a level percent of payroll) that completely funds benefits at retirement if made from a person's entry into employment until his retirement. The Actuarial Accrued Liability represents the sum of money and investments that would be held in the fund if the retirement system had been in effect since the date each member was first employed. The payment to fund the Unfunded Actuarial Accrued Liability is the amount necessary to amortize this liability over 30 years using the "level-percentage-of-payroll" method. Under the "level-percentage-of-payroll" method, the amortization payment is an amount which remains constant as a percentage of payroll over the 30 years. The initial 30 year period began with the 1990 valuation. In each subsequent valuation, any change in Unfunded Actuarial Accrued Liability is identified and established as a separate amortization base with a 30 year funding period beginning with that valuation. The change in Unfunded Actuarial Accrued Liability established as a separate base in each valuation will include changes attributable to experience gains and/or losses over the prior year, as well as changes attributable to benefit improvements and revisions in actuarial assumptions and funding methods.

The medical insurance contribution rate was originally determined in the 1987 valuation as the level percent of payroll necessary to fund projected medical insurance premiums over the next sixteen years (taking into account the level of reserves in the Insurance Fund). Beginning in 1988, this rate was increased each year by a percentage amount needed to reach the Entry Age Normal funding rate within a 20 year period measured from 1987. This was continued through the 1992 valuation. In the 1992 valuation, an acceleration of the scheduled increases in the medical insurance contribution rate was recommended where possible. This acceleration in these rates was coupled with a deferral of future increases until the time of the next experience study, unless there was a deterioration in the funded position of the medical premium benefit in which case the rate levels were to be reviewed to redetermine an appropriate current funding level, or unless recommended contributions are not made in the prior year, in which case the shortfall would be spread over future years through an increase in the contribution rate. This continued through the 1995 valuation. Effective with the 1996 valuation, a new medical insurance funding policy was adopted by the Board. Under this revised policy, the medical insurance contribution rate for the 1996 valuation was set equal to the 1995 rate plus any reduction in the retirement and administrative expense rates between the 1995 and 1996 valuations (but in no event to be less
than the 1995 medical insurance contribution rate). Beginning with the 1997 valuation, the medical insurance contribution rate is to be increased at the start of each biennium (coincides with valuations in odd numbered years) by the percentage amount necessary to raise this medical insurance rate to the full Entry Age Normal Cost Method contribution rate by the year 2016. There will be no change in the even numbered years unless there are actuarial gains relative to the retirement funding which will then be used to increase the medical insurance funding rate for the next year only.

The Board reviewed this funding policy in conjunction with the experience study prepared following the 2000 valuation. The current policy relative to the establishment of the permanent portion of the insurance fund rate was not changed. But in years where there may be a temporary reduction in the retirement fund contribution rate, the Board may use the amount of that reduction as an additional temporary contribution to the insurance fund.

In computing the full Entry Age Normal Cost Method contribution rate, liabilities are to be developed based on actuarial assumptions in use in the current valuation (as adjusted from time to time due to experience studies) and actuarial value of assets based on the same method as employed for the retirement benefit valuation. The actuarial value of assets for the medical contribution rate valuation utilized book value prior to the 1996 valuation, and a 5 -year market to book value average from 1996 through the 2000 valuation. The current asset valuation method was employed effective with the 2001 valuation.

The amount of the administrative expense was based on the budgeted amount for the twelve months following the date of the valuation, as allocated between Hazardous position and Non-Hazardous position employees.

## Actuarial Assumptions

Since the actuarial valuation involves estimates of benefits payable in the future, it is necessary that assumptions be made as to the interest earnings, rates of mortality, withdrawal, retirement, and disability, and the rate at which salaries will increase.
In addition, an assumption must be made relative to increases in medical insurance rates in order to value the liability for the medical insurance benefit.

It is desirable that the actuarial assumptions be reviewed periodically to see whether past experience and probable future experience justifies the continued use of these actuarial assumptions. Such a study was performed subsequent to the 2000 actuarial valuation and new actuarial assumptions were adopted by the Board for use in the 2001 and subsequent actuarial valuations, until such time as another experience study is performed. This valuation reflects assumptions based on the 2000 experience study. Actuarial assumptions used for hazardous position employees are similar to actuarial assumptions adopted for the State Police Retirement System (with the exception of the rate of retirement). The actuarial assumptions as used in this valuation are described later in this section.

## Actuarial Value of Assets

The actuarial value of assets is determined in the following manner for both the Retirement Fund and Insurance Fund:

1. Develop expected assets by projecting valuation assets from the prior valuation using the assumed valuation interest rate from the prior valuation and actual cash flows for the 12 months ending on the current valuation date.
2. The current year investment gain/loss shall be determined as the difference between actual market value as of the current valuation date and expected assets as computed in (1), further adjusted for any amount of investment gain/loss from prior years not yet recognized as of the current valuation date.
3. The amount of investment gain/loss for the current year shall be reflected equally over the current year and the following 4 years.
4. Valuation assets will be equal to expected assets from (1) plus/minus the amount of investment gain/loss from the current and prior 4 years to be recognized in the current year.
5. The starting point for this method shall be the actuarial value of assets as computed in the 2000 valuation under the prior asset valuation method then in effect. Only investment gains/losses occurring after June 30, 2000 shall be recognized and amortized under this method.

The following table shows the derivation of valuation assets for the Retirement Fund and the Insurance Fund as of the current valuation:

|  | RETIREMENT FUND |  | INSURANCE FUND |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Non <br> Hazardous | Hazardous | Non Hazardous | Hazardous |
| June 30, 2000 Valuation Assets | 6,806,675,460 | 336,213,464 | 399,560,252 | 102,212,237 |
| Cash Flows |  |  |  |  |
| > Employer Contributions | 21,911,066 | 10,377,708 | 66,874,871 | 13,226,298 |
| > Member Contributions | 104,125,142 | 10,545,410 |  |  |
| > Retirement Benefits | 291,704,431 | 7,995,608 |  |  |
| > Net Refunds | 4,529,059 | 1,221,586 |  |  |
| > Insurance Premiums |  |  | 37,286,345 | 1,982,382 |
| > Administrative Expenses | 3,826,370 | 302,411 | 308,411 | 24,658 |
| > Investment Manager Fees | 2,148,031 | 109,545 | 35,681 | 8,588 |
| Valuation Interest Assumption | 8.25\% | 8.25\% | 8.25\% | 8.25\% |
| Expected Return on Valuation Assets Reflecting Actual Cash Flows * |  |  |  |  |
|  | 554,283,644 | 28,203,487 | 34,170,054 | 8,894,950 |
| Expected Valuation Assets | 7,184,787,421 | 375,710,919 | 462,974,740 | 122,317,857 |
| Actual Market Value of Assets | 5,484,563,749 | 305,543,701 | 396,254,063 | 107,592,284 |
| Investment Gain/(Loss) | (1,700,223,672) | (70,167,218) | $(66,720,677)$ | $(14,725,573)$ |
| Amortization Amounts From Prior     <br> Valuations     <br> $\gg$ Valuation Year -1     <br> $\gg$ Initial Amount     |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| > Valuation Year - 2 |  |  |  |  |
| >> Initial Amount | N/A | N/A | N/A | N/A |
| >> Current Valuation Amount | N/A | N/A | N/A | N/A |
| >> Amortization | N/A | N/A | N/A | N/A |
| > Valuation Year - 3 |  |  |  |  |
| >> Initial Amount | N/A | N/A | N/A | N/A |
| >> Current Valuation Amount | N/A | N/A | N/A | N/A |
| >> Amortization | N/A | N/A | N/A | N/A |
| > Valuation Year - 4 |  |  |  |  |
| >> Initial Amount | N/A | N/A | N/A | N/A |
| >> Current Valuation Amount | N/A | N/A | N/A | N/A |
| >> Amortization | N/A | N/A | N/A | N/A |
| Unamortized Amount of Gain/(Loss) |  |  |  |  |
| From Prior Valuations | 0 | 0 | 0 | 0 |
| Investment Gain/(Loss) to be Amortized from Current Valuation Date |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| > Amount | (1,700,223,672) | (70,167,218) | (66,720,677) | $(14,725,573)$ |
| > Amortization | (340,044,734) | $(14,033,444)$ | $(13,344,135)$ | (2,945,115) |
| June 30, 2001 Valuation Assets |  |  |  |  |
| > Expected Assets | 7,184,787,421 | 375,710,919 | 462,974,740 | 122,317,857 |
| > Amortization Amounts | (340,044,734) | (14,033,444) | (13,344,135) | $(2,945,115)$ |
| > Valuation Assets | 6,844,742,687 | 361,677,475 | 449,630,605 | 119,372,742 |

* Cash flows are assumed equally spread throughout the year

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## A. STATEMENT OF ACTUARIAL ASSUMPTIONS

(1) Mortality:
(a) Active \& retired lives
(b) Disabled lives
(2) Disablement
(3) Termination of employment \#
(4) Retirement \#

- 1983 Group Annuity Mortality Table, plus a pre-retirement duty death rate of .0005 per year for hazardous duty employees.
- Social Security Administration Disability Mortality Rates - Actuarial Study No. 75 (current rates used by PBGC for disabled lives receiving Social Security).
- Graduated rates based on 2000 experience study (no change from 1995 experience study).
- Graduated select (non-hazardous and hazardous) and ultimate rates based on 2000 experience study.
- Non-Hazardous:

Age Retirement Rate
55-57 . 04

58-59 . 05
60-61 . 06
62 . 25
63-64 . 10
65 . 50
66-67 . 20
68 . 25
69 . 40
70 \& Over 1.00
At age 55-64 in lieu of the age related rate, $25 \%$ are assumed to retire as soon as eligible for unreduced benefits.

Hazardous: Assumed that $50 \%$ will retire as soon as eligible for unreduced benefits and balance will continue to age 60 .
(5) Marital status
(a) Percentage married $\quad-100 \%$.
(b) Age difference
(6) Dependent children
(7) Investment return
(8) Compensation progression \#
(9) Underlying Inflation Rate
(10) Retiree Medical Insurance \#

- Males are assumed to be 3 years older than their spouses.
- For hazardous position employees under duty related death benefits, it is assumed that the employee is survived by 2 dependent children, each age 6.
- $8.25 \%$ per year, net of investment related expenses, compounded annually.
- 1st year: $12.00 \%$

2nd year: $10.00 \%$
3rd year: $8.00 \%$
Thereafter: $6.50 \%$, compounded annually.

- $3.5 \%$ per year; reflected in investment return and compensation progression assumptions.
- It was assumed that future retirees would select medical coverage in the same proportion that current retirees have selected coverage. Monthly contribution rates were assumed to be as follows:

| Plan Type | Rate in Effect <br> on Valuation Date |
| :--- | :---: |
| Single | $\$ 252.46$ |
| - Region 1 | 293.46 |
| - Region 2 | 273.52 |
| - Region 3 | 234.00 |
| - All Others | 577.00 |
| Family | 350.00 |
| Parent Plus | 525.00 |
| Couple | 96.41 |
| Medicare* | 229.03 |

Region 1: Boyd, Carter, Elliott, Greenup
Region 2: Christian, Daviess, Hancock, Henderson, Hopkins, McLean, Muhlenberg, Ohio, Todd, Trigg, Union, Webster

Region 3: Harlan, Lewis, Mason, Perry, Roberston

| Carrier | Medicare Rate |  | Contracts in Force |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Low | High | Low | High |
|  | Option | Option | Option | Option |
| Anthem BC/BS | 101.26 | 231.35 | 2,839 | 17,314 |
| Bankers Life | 91.78 | 216.94 | 272 | 156 |
| Option 2000 | 83.05 | 216.51 | 504 | 1,767 |
| Humana | 85.00 | 247.00 | 490 | 1,729 |
| Humana |  |  |  |  |
| Gold Plus | 85.00 | 136.00 | 17 | 507 |

*Weighted average of current rates available from different carriers; weighting based on number of contracts in force.

In determining the target Entry Age Funding rate in valuations beginning with 1996, it was assumed that medical contribution rates would grow at the following annual levels:

| Years | Medical Increase |
| :--- | :---: |
| $2001-2002$ | $12 \%$ |
| $2003-2005$ | $10 \%$ |
| $2006-2010$ | $9 \%$ |
| $2011-2015$ | $8 \%$ |
| $2016-2020$ | $7.5 \%$ |
| Thereafter | $7 \%$ |

The assumed rate of growth in number of retirees receiving medical insurance was based on assumed retirement and mortality patterns used throughout the valuation.
(11) Missing data

- For those active members with incomplete data, the following assumptions were made:
. If reported salary was zero or blank, then monthly salary was assumed to be \$887.58
. If reported age was blank, then assume current age equal to age 18 plus years of service reported
- For active members with service in more than one system, the liability has been valued as follows:
- Service under all systems is aggregated for purposes of determining benefit eligibility.

Future service is projected only under the system in which the member is currently active.

The actual benefit under each system is determined based only on service (past and projected future service, if applicable) under that system.
. The liability is determined under each system based on the actuarial assumptions used for the system in which the member is currently active. This liability is then included in the valuation of the system in which the service has been earned (or is projected to be earned).

For inactive members with service in more than one system, the benefit attributable to the service under each system is determined, and the liability for that benefit is then included in the valuation of the system in which the service was earned.
\# Changes in assumptions from those used in 2000 valuation.
B. SAMPLE RATES FOR NON-HAZARDOUS POSITION EMPLOYEES*
(1) Annual Rates of Mortality:

| Age | Active Mortality |  | Disabled Mortality |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Males | Females | Males | Females |
| 25 | 0.05\% | 0.03\% | 4.83\% | 2.63\% |
| 30 | 0.06\% | 0.03\% | 3.62\% | 2.37\% |
| 40 | 0.12\% | 0.07\% | 2.82\% | 2.09\% |
| 50 | 0.40\% | 0.16\% | 3.83\% | 2.57\% |
| 55 | 0.61\% | 0.25\% | 4.82\% | 2.95\% |
| 60 | 0.92\% | 0.42\% | 6.03\% | 3.31\% |

(2) Annual Rates of Decrement:

| Age | Disablement | Ultimate Termination |
| :--- | ---: | :---: |
|  |  |  |
| 25 | $0.033 \%$ | $2.40 \%$ |
| 30 | $0.039 \%$ | $2.40 \%$ |
| 40 | $0.105 \%$ | $2.00 \%$ |
| 50 | $0.423 \%$ | $1.60 \%$ |
| 55 | $0.794 \%$ | $1.20 \%$ |
| 60 | $1.395 \%$ | $0.20 \%$ |

(3) Select Rates of Termination:

Years of Service $\qquad$

|  | Non-Hazardous | Hazardous |
| :--- | :---: | ---: |
| 1 | $35.0 \%$ | $30.0 \%$ |
| 2 | $10.0 \%$ | $8.0 \%$ |
| 3 | $7.0 \%$ | $4.0 \%$ |
| 4 | $5.0 \%$ | $4.0 \%$ |
| 5 | $4.0 \%$ | $4.0 \%$ |

(4) Compensation Progression (after 1st 3 Years):

Age \begin{tabular}{ccc}

Aate of \& | Compensation at Normal |
| :---: |
| Retirement as Percentage | <br>

Annual Increase \& \& | Of Current Annual Compensation |
| :---: | <br>

25 \& $6.50 \%$ \& $1,241.6 \%$ <br>
30 \& $6.50 \%$ \& $906.2 \%$ <br>
40 \& $6.50 \%$ \& $482.8 \%$ <br>
50 \& $6.50 \%$ \& $257.2 \%$ <br>
55 \& $6.50 \%$ \& $187.7 \%$ <br>
60 \& $6.50 \%$ \& $137.0 \%$
\end{tabular}

*Sample rates for hazardous position employees (other than select termination) are included in the State Police Retirement System valuation.

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## SECTION III

## RESULTS OF THE 2001 ACTUARIAL VALUATION

## Determination of Contribution Rate

The rate of contribution by the State required to provide 30 year amortization of the Unfunded Actuarial Accrued Liability under the level-percentage-of-payroll method, the employer share of the Normal Cost, medical insurance and the expenses of administration, is shown in Table I. The required contribution is expressed both in dollars and as a percentage of the estimated annual State payroll as of June 30, 2001.

The actuarial methods applied to determine the Normal Cost for the year commencing July 1, 2001 are described in Section II. These costs are classified by type of benefit. The Normal Cost contribution rate of the State is determined by reducing the total Normal Cost by the expected employee contributions. A breakdown of actuarial liabilities and costs between Hazardous and Non-Hazardous position employees appears in Table II for the Retirement Fund and Table IV for the Insurance Fund. A breakdown of the total Unfunded Actuarial Accrued Liability into the amortization amounts by year is shown in Table III for the Retirement Fund and Table V for the Insurance Fund. Table VI has been included to show an estimate of projected payouts from the funds over the next 10 years based on current plan provisions and actuarial assumptions.

## Actuarial Balance Sheet

Table VII is the actuarial balance sheet of the Kentucky Employees Retirement System as of June 30, 2001 for the Retirement Fund. Table VIII is the actuarial balance sheet for the Insurance Fund. The "actuarial balance sheet" displays the fundamental relationship between actual assets, future contributions, and future benefits. The asset side of the balance sheet is comprised of actual fund assets plus the actuarial present value of future contributions on behalf of current members. The actuarial present values of all projected benefit payments to present active and inactive members make up the balance sheet liabilities.

## Accountant's Information

Table IX contains additional information needed to comply with GASB disclosure requirements for the Retirement Fund.

Table X contains information needed to comply under GASB Statement No. 12 relative to the Insurance Fund.


| TABLEIIKENTUCKY EMPLOYEES RETIREMENT SYSTEMRETIREMENT FUNDCLASSIFICATION OFACTUARIAL LIABILITIESAND COSTS - JUNE |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | n-Hazardous Position Employees |  | zardous osition ployees |  | Total |
| ACTUARIAL ACCRUED LIABILITY |  |  |  |  |  |  |
| Active Members |  |  |  |  |  |  |
| Retirement Benefits | \$ | 2,382,224,431 | \$ | 180,582,151 | \$ | 2,562,806,582 |
| Disability Benefits |  | 157,611,834 |  | 10,217,619 |  | 167,829,453 |
| W ithdraw al Benefits (Vested and Refund of Contributions) |  | $85,133,457$ |  | $904,066$ |  | $86,037,523$ |
| Survivor Benefits |  | 149,310,476 |  | 7,117,656 |  | 156,428,132 |
| Total - Actives | \$ | 2,774,280,198 | \$ | 198,821,492 | \$ | 2,973,101,690 |
| Inactive M embers |  |  |  |  |  |  |
| Retired M embers and |  |  |  |  |  |  |
| Beneficiaries | \$ | 2,621,725,952 | \$ | 83,538,933 | \$ | 2,705,264,885 |
| Vested Retirement |  | 34,959,866 |  | 2,055,232 |  | 37,015,098 |
| Vested M embership |  | 13,069,278 |  | 778,104 |  | 13,847,382 |
| Total-Inactives | \$ | 2,669,755,096 | \$ | 86,372,269 | \$ | 2,756,127,365 |
| Total Actuarial Accrued Liability | \$ | 5,444,035,294 | \$ | 285,193,761 | \$ | 5,729,229,055 |
| UNFUNDED ACTUARIAL ACCRUED LIABILITY |  |  |  |  |  |  |
| Total Actuarial Accrued Liability Less Actuarial Value of Assets Unfunded Actuarial Accrued Liability | \$ | 5,444,035,294 | \$ | 285,193,761 | \$ | 5,729,229,055 |
|  |  | 6,844,742,687 |  | 361,677,475 |  | 7,206,420,161 |
|  | \$ | (1,400,707,393) | \$ | $(76,483,714)$ | \$ | $(1,477,191,106)$ |
| NORMALCOST |  |  |  |  |  |  |
| Retirement Benefits | \$ | 115,043,802 | \$ | 17,578,203 | \$ | 132,622,005 |
| Disability Benefits |  | 14,069,688 |  | 1,930,400 |  | 16,000,088 |
| W ithdraw al Benefits (Vested and Refund of Contributions) |  | 10,283,646 |  | 769,285 |  | 11,052,931 |
| Survivor Benefits |  | 7,497,420 |  | 923,436 |  | 8,420,856 |
| Total Normal Cost | \$ | 146,894,556 | \$ | 21,201,324 | \$ | 168,095,880 |
| Less Employee Contributions |  | 75,789,871 |  | 9,434,891 |  | 85,224,762 |
| Total Normal Cost - State | \$ | 71,104,685 | \$ | 11,766,433 | \$ | 82,871,118 |

## TABLE III

KENTUCKY EMPLOYEES RETIREMENT SYSTEM
UNFUNDED ACTUARIAL ACCRUED LIABILITY - RETIREMENTFUND - JUNE 30,2001

| Date <br> Established | Amount of Base on |  |  |  | Amortization Payment |  | Source of Base |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Date Established |  | Current Valuation Date |  |  |  |
| Non-Hazardous Position Employees |  |  |  |  |  |  |  |
| 6/30/1990 | \$ | 256,534,456 | \$ | 320,210,968 | \$ | 21,867,527 | Cumulative unfunded actuarial accrued liability set up as initial base under revised funding policy ( 30 year level percent of payroll method) |
| 6/30/1991 |  | 103,692,389 |  | 128,098,504 | \$ | 8,425,551 | Experience gains/losses for 7/1/1990 to 6/30/1991 |
| 6/30/1992 |  | $(212,448,599)$ |  | (259,120,054) | \$ | $(16,455,160)$ | Experience gains/losses for 7/1/1991 to 6/30/1992; Retiree COLA's; Asset valuation method change |
| 6/30/1993 |  | $(57,917,315)$ |  | (69,590,195) | \$ | $(4,276,039)$ | Experience gains/losses for 7/1/1992 to 6/30/1993; State contribution shortfall |
| 6/30/1994 |  | 59,519,052 |  | 70,310,083 | \$ | 4,188,653 | Experience gains/losses for 7/1/1993 to 6/30/1994; Retiree COLA's; State contribution shortfall |
| 6/30/1995 |  | 65,659,241 |  | 76,117,631 | \$ | 4,404,471 | Experience gains/losses for 7/1/1994 to 6/30/1995 |
| 6/30/1996 |  | $(188,573,585)$ |  | $(214,176,369)$ | \$ | $(12,057,487)$ | Experience gains/losses for 7/1/1995 to 6/30/1996; Revised actuarial assumptions; Correction of pension allocation for members in pay status with both non-hazardous and hazardous service in KERS |
| 6/30/1997 |  | $(277,888,742)$ |  | $(308,486,216)$ | \$ | $(16,922,320)$ | Experience gains/losses for 7/1/1996 to 6/30/1997; 2.8\% retiree COLA effective 8/1/1996 |
| 6/30/1998 |  | $(326,522,755)$ |  | $(353,786,834)$ | \$ | $(18,936,794)$ | Experience gains/losses for 7/1/1997 to 6/30/1998; Increase in death benefit from $\$ 2,500$ to $\$ 5,000 ; 3.0 \%$ retiree COLA effective 7/1/1997 |
| 6/30/1999 |  | $(362,615,121)$ |  | $(382,978,122)$ | \$ | $(20,028,607)$ | Experience gains/losses for 7/1/1998 to 6/30/1999; 2.3\% retiree COLA effective 7/1/1998; Benefit multiplier change effective |
| 6/30/2000 |  | (964,739,576) |  | (992,010,673) | \$ | (50,749,282) | Experience gains/losses for 7/1/1999 to 6/30/2000; 1.6\% retiree COLA effective 7/1/1999 |
| 6/30/2001 |  | 584,703,884 |  | 584,703,884 | \$ | 29,293,080 | Experience gains/losses for 7/1/2000 to 6/30/2001; 2.2\% retiree COLA effective 7/1/2000; 3-year average earnings window |
| Total | \$ | $(1,320,596,671)$ | \$ | $(1,400,707,393)$ | \$ | $(71,246,407)$ |  |


| TABLE III (Continued) <br> KY EMPLOYEES RETIREMENT SYSTEM |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Amount of | Base on |  |  |
| Date <br> Established | Date Established | Current Valuation Date | Amortization Payment | Source of Base |
| Hazardous Position Employees |  |  |  |  |
| 6/30/1990 | \$ (366,782) | \$ (457,824) | \$ (31,265) | Cumulative unfunded actuarial accrued liability set up as initial base under revised funding policy (30 year level percent of payroll method) |
| 6/30/1991 | 8,515,857 | 10,520,238 | 691,958 | Experience gains/losses for 7/1/1990 to 6/30/1991 |
| 6/30/1992 | $(2,222,347)$ | $(2,710,559)$ | $(172,131)$ | Experience gains/losses for 7/1/1991 to 6/30/1992; Retiree COLA's; Asset valuation method change |
| 6/30/1993 | 1,873,766 | 2,251,411 | 138,340 | Experience gains/losses for 7/1/1992 to 6/30/1993; State contribution shortfall |
| 6/30/1994 | 2,736,468 | 3,232,600 | 192,579 | Experience gains/losses for 7/1/1993 to 6/30/1994; Retiree COLA's; State contribution shortfall |
| 6/30/1995 | 4,677,834 | 5,422,931 | 313,792 | Experience gains/losses for 7/1/1994 to 6/30/1995 |
| 6/30/1996 | $(33,735,166)$ | $(38,315,417)$ | $(2,157,043)$ | Experience gains/losses for 7/1/1995 to 6/30/1996; Revised actuarial assumptions; Correction of pension allocation for members in pay status with both nonhazardous and hazardous service in KERS |
| 6/30/1997 | $(7,971,975)$ | $(8,849,744)$ | $(485,462)$ | Experience gains/losses for 7/1/1996 to 6/30/1997; 2.8\% retiree COLA effective 8/1/1996 |
| 6/30/1998 | $(13,896,455)$ | $(15,056,785)$ | $(805,929)$ | Experience gains/losses for 7/1/1997 to 6/30/1998; Revised average salary definition from 5 years to 3 years; Increase in death benefit from $\$ 2,500$ to \$5,000; 3.0\% retiree COLA effective 7/1/1997 |
| 6/30/1999 | $(13,902,335)$ | $(14,683,034)$ | $(767,879)$ | Experience gains/losses for 7/1/1998 to 6/30/1999; 2.3\% retiree COLA effective 7/1/1998 |
| 6/30/2000 | $(35,735,060)$ | $(36,745,212)$ | $(1,879,812)$ | Experience gains/losses for 7/1/1999 to 6/30/2000; <br> 1.6\% retiree COLA effective 7/1/1999 |
| 6/30/2001 | 18,907,681 | 18,907,681 | 947,256 | Experience gains/losses for $7 / 1 / 2000$ to 6/30/2001; 2.2\% retiree COLA effective 7/1/2000 |
| Total | \$ (71, 118,514) | \$ (76,483,714) | \$ $(4,015,596)$ |  |



TABLE V
KENTUCKY EMPLOYEES RETIREMENT SYSTEM
UNFUNDED ACTUARIAL ACCRUED LIABILITY - INSURANCE FUND - JUNE 30, 2001


Non-Hazardous Position Employees

| 6/30/1996 | \$ 988,745,810 | \$1,122,988, 610 | \$ 63,220,890 | Cumulative unfunded actuarial accrued liability set up as initial base under revised funding policy (30 year level percent of payroll method) |
| :---: | :---: | :---: | :---: | :---: |
| 6/30/1997 | $(31,222,593)$ | $(34,660,416)$ | $(1,901,332)$ | Experience gains/losses for 7/1/1996 to 6/30/1997; <br> Impact of actual insurance fund contributions vs. <br> full entry age amounts |
| 6/30/1998 | 19,914,214 | 21,577,017 | 1,154,931 | Experience gains/losses for 7/1/1997 to 6/30/1998; Impact of actual insurance fund contributions vs. full entry age amounts |
| 6/30/1999 | $(69,145,663)$ | $(73,028,604)$ | $(3,819,177)$ | Experience gains/losses for 7/1/1998 to 6/30/1999; <br> Impact of actual insurance fund contributions vs. <br> full entry age amounts |
| $6 / 30 / 2000$ | 44,198,913 | 45,448,321 | $2,325,045$ | Experience gains/losses for 7/1/1999 to 6/30/2000; <br> Impact of actual insurance fund contributions vs. <br> full entry age amounts |
| 6/30/2001 | 237,627,565 | 237,627,565 | 11,904,903 | Experience gains/losses for 7/1/2000 to 6/30/2001; Impact of actual insurance fund contributions vs. full entry age amounts |
| Total | \$1,190,118,246 | \$1,319, 952,493 | \$ 72,885,260 |  |
| Hazardous Position Employees |  |  |  |  |
| 6/30/1996 | \$ 61,002,123 | \$ 69,284,431 | \$ 3,900,506 | Cumulative unfunded actuarial accrued liability set up as initial base under revised funding policy (30 year level percent of payroll method) |
| 6/30/1997 | 15,100,456 | 16,763,122 | 919,558 | Experience gains/losses for 7/1/1996 to 6/30/1997; Impact of actual insurance fund contributions vs. full entry age amounts |
| 6/30/1998 | $2,832,306$ | 3,068,799 | 164,261 | Experience gains/losses for 7/1/1997 to 6/30/1998; Impact of actual insurance fund contributions vs. full entry age amounts |
| 6/30/1999 | $(10,377,564)$ | $(10,960,325)$ | (573,192) | Experience gains/losses for 7/1/1998 to 6/30/1999; Impact of actual insurance fund contributions vs. full entry age amounts |
| $6 / 30 / 2000$ | $(3,445,265)$ | $(3,542,656)$ | $(181,235)$ | Experience gains/losses for 7/1/1999 to 6/30/2000; <br> Impact of actual insurance fund contributions vs. <br> full entry age amounts |
| 6/30/2001 | 20,464,709 | 20,464,709 | 1,025,261 | ```Experience gains/losses for 7/1/2000 to 6/30/2001; Impact of actual insurance fund contributions vs. full entry age amounts``` |
| Total | \$ 85,576,765 | \$ 95,078,080 | \$ 5,255,159 |  |

TABLE VI
KENTUCKY EMPLOYEES RETIREMENT SYSTEM BENEFIT PAYMENT PROJECTIONS

| RETIREMENT FUND PAYMENT PROJECTIONS |  |  |  |
| :---: | :---: | :---: | :---: |
| Plan Year | Non-Hazardous Position Employees | Hazardous <br> Position <br> Employees | Total |
| 7/1/2001 to 6/30/2002 | 314,660,000 | 11,226,000 | 325,886,000 |
| 7/1/2002 to 6/30/2003 | 333,058,000 | 13,008,000 | 346,066,000 |
| 7/1/2003 to 6/30/2004 | 352,130,000 | 14,770,000 | 366,900,000 |
| 7/1/2004 to 6/30/2005 | 373,663,000 | 16,838,000 | 390,501,000 |
| 7/1/2005 to 6/30/2006 | 398,377,000 | 19,125,000 | 417,502,000 |
| 7/1/2006 to 6/30/2007 | 426,620,000 | 21,699,000 | 448,319,000 |
| 7/1/2007 to 6/30/2008 | 456,677,000 | 25,101,000 | 481,778,000 |
| 7/1/2008 to 6/30/2009 | 490,726,000 | 29,156,000 | 519,882,000 |
| 7/1/2009 to 6/30/2010 | 524,749,000 | 33,535,000 | 558,284,000 |
| 7/1/2010 to 6/30/2011 | 561,348,000 | 37,615,000 | 598,963,000 |
| INSURANCE FUND PAYMENT PROJECTIONS |  |  |  |
| Plan Year | Non-Hazardous | Hazardous |  |
|  | Position | Position |  |
|  | Employees | Employees | Total |
| 7/1/2001 to 6/30/2002 | 47,680,000 | 4,144,000 | 51,824,000 |
| 7/1/2002 to 6/30/2003 | 54,005,000 | 4,895,000 | 58,900,000 |
| 7/1/2003 to 6/30/2004 | 60,485,000 | 5,697,000 | 66,182,000 |
| 7/1/2004 to 6/30/2005 | 67,313,000 | 6,605,000 | 73,918,000 |
| 7/1/2005 to 6/30/2006 | 75,199,000 | 7,683,000 | 82,882,000 |
| 7/1/2006 to 6/30/2007 | 83,779,000 | 8,849,000 | 92,628,000 |
| 7/1/2007 to 6/30/2008 | 92,595,000 | 10,271,000 | 102,866,000 |
| 7/1/2008 to 6/30/2009 | 102,629,000 | 11,970,000 | 114,599,000 |
| 7/1/2009 to 6/30/2010 | 114,124,000 | 14,088,000 | 128,212,000 |
| 7/1/2010 to 6/30/2011 | 126,747,000 | 16,248,000 | 142,995,000 |

Projected benefit payments reflect future actual experience consistent with actuarial assumptions used in current annual valuation. Future cost-of-living adjustments of 3\% per annum have been assumed in retirement benefit amounts. Insurance fund payments reflect future medical inflation rates consistent with the valuation assumption. There has not been any assumption made as to the number of future new entrants who may enter the plan. Nor has any provision been made for any change in the basic benefit structure of the plan beyond changes already legislated.

| TABLE VII <br> KENTUCKYEMPLOYEES RETIREMENT SYSTEM <br> RETIREMENT FUND <br> ACTUARIAL BALANCE SHEET - JUNE 30, 2001 |  |  |  |
| :---: | :---: | :---: | :---: |
| ACTUARIAL ASSETS |  |  |  |
| Fund Assets at Actuarial Value (Plus Refunds and Expenses Payable) * |  | \$ | 7,206,420,161 |
| Actuarial Present Value of Future M ember Contributions |  |  | 984,772,747 |
| Actuarial Present Value of Future Employer Contributions <br> For Normal Costs <br> For Unfunded Actuarial Accrued Liability Total | $\begin{aligned} & \$ \\ & (1,477,191,106) \end{aligned}$ | \$ | (597,124,202) |
| Total Actuarial Assets |  | \$ | 7,594,068,706 |
| ACTUARIAL LIABILITIES |  |  |  |
| Actuarial Present Value of Future Benefits Inactive M embers: <br> Retired Members and Beneficiaries <br> Vested Retirement <br> Vested Membership <br> Total - Inactive | $\begin{array}{r} 2,705,264,885 \\ 37,015,098 \\ 13,847,382 \end{array}$ | \$ | 2,756,127,365 |
| Actuarial Present Value of Future Benefits <br> Active Members: <br> Retirement Benefits <br> Disability Benefits <br> Withdrawal Benefits (Vested and <br> Refund of Contributions) <br> Survivor Benefits <br> Total - Active | \$$4,034,992,143$ <br> $335,398,531$ <br>  <br> $219,022,476$ <br> $248,528,191$ | \$ | 4,837,941,341 |
| Refunds and Expenses Payable |  | \$ | 0 |
| Total Actuarial Liabilities |  | \$ | 7,594,068,706 |
| Notes |  |  |  |
| * Values as of June 30, 2001 <br> M arket value of assets: <br> Actuarial value of assets: M ember's Contribution Account: | Non-Hazardous Hazardous Total | \$ \$ \$ \$ \$ | $5,484,563,749$ $305,543,701$ $5,790,107,450$ $7,206,420,161$ $895,839,477$ |
| ** Present value of accrued benefit deferred to normal | tirement date. |  |  |



| TABLE IX <br> KENTUCKY EMPLOYEES RETIREMENT SYSTEM <br> ANT'S INFORMATION - RETIREMENT FUND - JUNE 30, 2001 GASB DISCLOSURE INFORMATION |  |  |  |
| :---: | :---: | :---: | :---: |
|  | Non-Hazardous Position Employees | Hazardous <br> Position <br> Employees | Total |
| NUMBER OF MEMBERS |  |  |  |
| Inactive M embers |  |  |  |
| Retired M embers | 21,440 | 933 | 22,373 |
| Beneficiaries | 3,678 | 120 | 3,798 |
| Vested Retirements | 3,312 | 123 | 3,435 |
| Vested M embership | 13,429 | 799 | 14,228 |
| Total Inactive M embers | 41,859 | 1,975 | 43,834 |
| Active Members |  |  |  |
| Vested M embers | 31,020 | 2,138 | 33,158 |
| Nonvested Members | 16,760 | 2,090 | 18,850 |
| Total Active Members | 47,780 | 4,228 | 52,008 |
| Total Members | 89,639 | 6,203 | 95,842 |

## TABLEX

KENTUCKY EMPLOYEES RETIREMENT SYSTEM
ACCOUNTANT'S INFORMATION - INSURANCEFUND - JUNE 30, 2001 INFORMATION REQUIRED UNDER GASB STATEMENT NO. 12


## SECTION IV

## COMMENTS AND CERTIFICATION

## Comments

For the Retirement Fund, the total Actuarial Accrued Liability has increased from $\$ 5,120,191,329$ on June 30, 2000 to $\$ 5,729,225,055$ on June 30, 2001. The Unfunded Actuarial Accrued Liability has increased from $\$(2,022,697,595)$ to $\$(1,477,191,106)$. Total actuarial value of assets as of June 30, 2001 was equal to $\$ 7,206,420,161$. The Unfunded Actuarial Accrued Liability increased from ( $130.71 \%$ ) to ( $89.60 \%$ ) as a percentage of annual payroll and increased from ( $39.5 \%$ ) to ( $25.8 \%$ ) as a percentage of the Actuarial Accrued Liability in the year ended June 30, 2001.

For the Insurance Fund, the total Actuarial Accrued Liability has increased from \$1,632,642,971 on June 30, 2000 to $\$ 1,984,033,920$ on June 30, 2001. The Unfunded Actuarial Accrued Liability has increased from $\$ 1,130,870,482$ to $\$ 1,415,030,574$. Total actuarial value of assets as of June 30, 2001 was equal to $\$ 569,003,346$. The Unfunded Actuarial Accrued Liability increased from $69.3 \%$ to $71.3 \%$ as a percentage of the Actuarial Accrued Liability in the year ended June 30, 2001.

The change in contribution rate between the 2000 and 2001 valuations is a function of actual plan experience since the last valuation. A formal gain and loss analysis would identify the portion of the contribution rate change attributable to each element of plan experience and benefit change. However, undertaking such an analysis would be extremely time consuming and expensive. In lieu of the formal analysis, we have estimated the impact of the various components of gain and loss based on changes in statistical averages of each group. The following table shows the results of this computation:

|  | Non-Hazardous <br> Position Employees | Hazardous <br> Position Employees |
| :--- | :---: | :---: |
| June 30, 2000 Contribution Rate | $5.89 \%$ | $18.84 \%$ |
| Change in Payment Percentage Due to Covered Payroll <br> Experience | $0.10 \%$ | $0.10 \%$ |
| Investment Return Experience <br> $>$ Prior to Asset Valuation Method Change <br> $>$ Impact of Asset Valuation Method Change | $0.06 \%$ | $0.04 \%$ |
| Salary Increase Experience | $1.05 \%$ | $0.53 \%$ |
| Decrements Experience* | $0.28 \%$ | $0.11 \%$ |
| Change in Insurance Fund Rate <br> $>$ One-Year Temporary Funding Rate <br> $>$ Increase in Long Term Funding Rate | $(0.57 \%)$ | $(0.06 \%)$ |
| Change in Administrative Expense Rate | $0.23 \%$ | $(0.78 \%)$ |
| Retiree COLA Effective 7/1/2000 | $(0.13 \%)$ | $0.39 \%$ |
| Legislated Changes <br> $>3$ Year Average Window for Nonhazardous | $0.19 \%$ | $0.13 \%)$ |
| Change in Actuarial Assumptions | $0.25 \%$ | $0.07 \%$ |
| Reduction in Amount Available from Prior Year Retirement <br> Fund Rate to Offset Current Year Increases | $0.13 \%$ | $0.00 \%$ |
| June 30, 2001 Contribution Rate | $(1.61 \%)$ | $0.27 \%)$ |
| * Includes mortality, disability, termination of employment and retirement experience. | $\mathrm{N} / \mathrm{A}$ |  |

The annual State contribution rate required to provide the Normal Cost, 30 year amortization of the Unfunded Actuarial Accrued Liability under the level-percentage-of-payroll method, and pay administrative expenses for Non-Hazardous position employees was determined at $0.34 \%$. An additional $5.55 \%$ is required to fund medical insurance for retirees, bringing the required contribution up to $5.89 \%$. This is the same as the current $5.89 \%$ budgeted contribution rate. Therefore, it is our opinion that the contribution rate beginning July 1, 2002 should remain at the $5.89 \%$ level, and we so recommend.

The annual State contribution rate required to provide the Normal Cost, 30 year amortization of the Unfunded Actuarial Accrued Liability under the level-percentage-of-payroll method, and pay administrative expenses for Hazardous position employees was determined at $6.57 \%$. An additional $12.27 \%$ is required to fund medical insurance for retirees, bringing the required contribution up to $18.84 \%$. This is the same as the current $18.84 \%$ budgeted contribution rate. Therefore, it is our opinion that the contribution rate beginning July 1, 2002 should remain at the $18.84 \%$ level, and we so recommend.

The recommended contribution rates are based on current statutory benefits. The budgeted contribution rates will again be reviewed in the June 30, 2002 valuation.

The following table shows the total Actuarial Accrued Liability, the Unfunded Actuarial Accrued Liability, percent unfunded and the growth of the invested assets relative to retirement related benefits at selected intervals since the inception of the System.

| KENTUCKY EMPLOYEES RETIREMENT SYSTEM - RETIREMENT FUND |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| July 1 of Year Shown | Total Actuarial Accrued Liability | Unfunded Actuarial Accrued Liability | Percent <br> Unfunded | Actuarial Value of Assets | Increase in Assets |
| 1956 | \$ 16,200,000 | \$ 16,200,000 | 100.0\% | \$ | \$ 0 |
| 1961 | 49,201,024 | 31,670,465 | 64.4\% | 17,530,559 | 4,479,508 |
| 1966 | 127,889,238 | 72,137,125 | 56.4\% | 55,752,113 | 9,085,814 |
| 1971 | 185,075,453 | 59,614,477 | 32.2\% | 125,460,976* | 18,353,116 |
| 1975 | 296,343,758 | 77,434,549 | 26.1\% | 218,909,209* | 26,529,526 |
| 1976 | 387,214,910 | 130,838,120 | 33.8\% | 256,376,790* | 37,467,581 |
| 1977 | 446,255,236 | 149,511,331 | 33.5\% | 296,743,905* | 40,367,115 |
| 1978 | 507,324,915 | 168,497,917 | 33.2\% | 338,826,998* | 42,083,093 |
| 1979 | 592,095,113 | 202,676,662 | 34.2\% | 389,418,451* | 50,591,453 |
| 1980 | 710,126,703 | 249,770,835 | 35.2\% | 460,355,868* | 70,937,417 |
| 1981 | 692,160,395 | 164,735,129 | 23.8\% | 527,425,266 | 67,069,398 |
| 1982 | 810,250,589 | 195,803,691 | 24.2\% | 614,446,898 | 87,021,632 |
| 1983 | 862,291,959 | 152,196,081 | 17.7\% | 710,095,878 | 95,648,980 |
| 1984 | 1,016,088,830 | 201,535,007 | 19.8\% | 814,553,823 | 104,457,945 |
| 1985 | 1,104,429,988 | 169,949,215 | 15.4\% | 934,480,773 | 119,926,950 |
| 1986 | 1,245,083,143 | 166,635,243 | 13.4\% | 1,079,353,421 | 144,872,648 |
| 1987 | 1,384,259,808 | 120,259,389 | 8.7\% | 1,264,000,419 | 184,646,998 |
| 1988 | 1,561,743,738 | 135,687,336 | 8.7\% | 1,426,056,402 | 162,055,983 |
| 1989 | 1,734,607,903 | 145,998,805 | 8.4\% | 1,588,609,098 | 162,552,696 |
| 1990 | 2,055,489,412 | 256,167,674 | 12.5\% | 1,799,321,738 | 210,712,640 |
| 1991 | 2,288,611,147 | 375,396,216 | 16.4\% | 1,913,214,931 | 113,893,193 |
| 1992** | 2,525,190,930 | 170,708,609 | 6.8\% | 2,354,482,321 | 441,267,390 |
| 1993 | 2,703,771,076 | 118,561,539 | 4.4\% | 2,585,209,537 | 230,727,216 |
| 1994 | 2,912,050,275 | 183,001,288 | 6.3\% | 2,729,048,987 | 143,839,450 |
| 1995 | 3,240,852,288 | 257,038,750 | 7.9\% | 2,983,813,538 | 244,764,551 |
| 1996 | 3,415,404,483 | 40,108,906 | 1.2\% | 3,375,295,577 | 391,482,039 |
| 1997 | 3,603,966,110 | $(246,746,133)$ | (6.8\%) | 3,850,712,243 | 475,416,666 |
| 1998 | 3,971,749,822 | (596,537,421) | (15.0\%) | 4,568,287,243 | 717,575,000 |
| 1999 | 4,531,905,609 | (992,274,107) | (21.9\%) | 5,524,179,716 | 955,892,473 |
| 2000 | 5,120,191,329 | (2,022,697,595) | (39.5\%) | 7,142,888,924 | 1,618,709,208 |
| 2001*** | 5,729,229,055 | (1,477,191,106) | (25.8\%) | 7,206,420,161 | 63,531,237 |
| *Includes capitalized appreciation of investments. |  |  |  |  |  |
| **Change in asset valuation method effective in this valuation from book value to a five year average of market to book values. |  |  |  |  |  |
| ***Change in asset valuation method effective in this valuation to 5-year smoothing of investment gains/(losses). |  |  |  |  |  |

The following table shows the total Actuarial Accrued Liability, the Unfunded Actuarial Accrued Liability, percent unfunded and the growth of the invested assets relative to medical premium benefits since 1990 .

| KENTUCKY EMPLOYEES RETIREMENT SYSTEM - INSURANCE FUND |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| July 1 of Year Shown | Total Actuarial Accrued Liability | Unfunded <br> Actuarial <br> Accrued <br> Liability | Percent Unfunded | Actuarial Value of Assets | Increase in Assets |
| 1990 | \$ 719,493,806 | \$ 686,770,874 | 95.5\% | \$ 32,722,932 | \$ N/A |
| 1991 | 804,674,050 | 758,124,715 | 94.2\% | 46,549,335 | 13,826,403 |
| 1992 | 1,001,703,695 | 939,238,069 | 93.8\% | 62,465,626 | 15,916,291 |
| 1993 | 1,177,861,283 | 1,100,187,708 | 93.4\% | 77,673,575 | 15,207,949 |
| 1994 | 1,444,612,678 | 1,345,529,145 | 93.1\% | 99,083,533 | 21,409,958 |
| 1995 | 1,462,174,101 | 1,334,881,910 | 91.3\% | 127,292,191 | 28,208,658 |
| 1996** | 1,222,394,138 | 1,049,747,933 | 85.9\% | 172,646,205 | 45,354,014 |
| 1997 | 1,274,464,242 | 1,063,299,895 | 83.4\% | 211,164,347 | 38,518,142 |
| 1998 | 1,379,578,155 | 1,114,866,185 | 80.8\% | 264,711,970 | 53,547,623 |
| 1999 | 1,422,523,386 | 1,064,238,850 | 74.8\% | 358,284,536 | 93,572,566 |
| 2000 | 1,632,642,971 | 1,130,870,482 | 69.3\% | 501,772,489 | 143,487,953 |
| 2001*** | 1,984,033,920 | 1,415,030,574 | 71.3\% | 569,003,346 | 67,230,857 |
| **Change in asset valuation method effective in this valuation from book value to a five year average of market to book values. |  |  |  |  |  |
| ***Change in asset valuation method effective in this valuation to 5-year smoothing of investment gains/(losses). |  |  |  |  |  |

## Certification

On the basis of the actuarial assumptions given and the data furnished by the General Manager of the Kentucky Employees Retirement System, it is certified that the actuarial valuation has been made by the use of accepted actuarial principles and based on continuation of current funding polices adopted by the Board, that adequate provision is being made for the funding of future benefits.

We are available to answer any questions on the material contained in the report, or to provide explanations or further details as may be appropriate. The undersigned credentialed actuaries meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report.

Stephen A. Gagel, F.S.A.

## Date

Edward W. Maynard, F.S.A.

## Date

William M. Mercer, Incorporated
462 South Fourth Avenue, Suite 1500
Louisville, Kentucky 40202-3431
(D) (502) 561-4500

## SECTION V

## STATISTICAL DATA

 AS OFJUNE 30, 2001

## KENTUCKY EMPLOYEES RETIREMENT SYSTEM

## NONHAZARDOUS DUTY EMPLOYEE CLASSIFICATION

JUNE 30, 2001
EARNINGS BY AGE GROUPS

| AGE |  | . MALE |  |  | FEMALE |  |  | TOTAT |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| GROUP | COUNT | EARNINGS | AVERAGE | COUNT | EARNINGS | AVERAGE | COUNT | EARNINGS | AVERAGE |
| 0-19 | 858 | 16,520,472 | 19,255 | 91 | 1,536,756 | 16,887 | 949 | 18,057,228 | 19,028 |
| 20-24 | 1,432 | $31,304,532$ | 21,861 | 1,097 | 19,710,446 | 17,968 | 2,529 | 51,014,978 | 20,172 |
| 25-29 | 1,446 | 35,273,198 | 24,394 | 2,656 | 59,307,067 | 22,329 | 4,102 | 94,580,265 | 23, 057 |
| 30-34 | 1,987 | 57,667,238 | 29,022 | 3,248 | 82,720,424 | 25,468 | 5,235 | 140,387,662 | 26,817 |
| 35-39 | 2,233 | 75,641,508 | 33,874 | 3,607 | 100,308,362 | 27,809 | 5,840 | 175,949,870 | 30,128 |
| 40-44 | 2,696 | 100,328, 858 | 37,214 | 4,366 | 131,174,848 | 30,045 | 7,062 | 231,503,706 | 32,782 |
| 45-49 | 3,085 | 124,411,140 | 40,328 | 4,801 | 158,086,052 | 32,928 | 7,886 | 282,497,192 | 35,823 |
| 50-54 | 2,921 | 129,174,165 | 44,223 | 4,066 | 137,359,146 | 33,782 | 6,987 | 266,533,311 | 38,147 |
| 55-59 | 1,846 | 81,543,708 | 44,173 | 2,454 | 79,344,055 | 32,333 | 4,300 | 160,887,763 | 37,416 |
| 60-64 | 906 | 37,979,239 | 41,920 | 1,137 | 35,891,016 | 31,566 | 2,043 | 73,870,255 | 36,158 |
| 65-69 | 276 | 12,279,768 | 44,492 | 299 | 8,438,328 | 28,222 | 575 | 20,718,096 | 36,031 |
| 70-74 | 103 | 4,420,752 | 42,920 | 96 | 2,580,948 | 26,885 | 199 | 7,001,700 | 35,184 |
| $75+$ | 38 | 1,244,568 | 32,752 | 35 | 941,940 | 26,913 | 73 | 2,186,508 | 29,952 |
| TOTAL | 19,827 | 707,789,146 | 35,698 | 27,953 | 817,399,387 | 29,242 | 47,780 | 525,188,532 | 31,921 |

EARNINGS BY SERVICE GROUPS

| SERVICE GROUP | . . . . . . . . . . MALE . . . . . . . . . . . |  |  | . . . . . . . . .FEMALE . |  |  | . . . . . . . . . . TOTAL |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | COUNT | EARNINGS | AVERAGE | COUNT | EARNINGS | AVERAGE | COUNT | EARNINGS | AVERAGE |
| 0 | 1,332 | 26,217,535 | 19,683 | 1,542 | 27,959,768 | 18,132 | 2,874 | 54,177,303 | 18,851 |
| 1 | 2,229 | $54,658,046$ | 24,521 | 3,275 | 68,450,675 | 20,901 | 5,504 | 123,108,721 | 22,367 |
| 2 | 2,000 | 53,557,653 | 26,779 | 2,369 | 55,600,315 | 23,470 | 4,369 | 109,157,968 | 24,985 |
| 3 | 1,151 | 34,177,250 | 29,694 | 1,457 | 35,715,523 | 24,513 | 2,608 | 69,892,773 | 26,799 |
| 4 | 1,046 | $31,577,676$ | 30,189 | 1,467 | 36,585,192 | 24,939 | 2,513 | 68,162,868 | 27,124 |
| 0-4 | 7,758 | 200,188,160 | 25,804 | 10,110 | 224,311,472 | 22,187 | 17,868 | 424,499,632 | 23,758 |
| 5-9 | 3,279 | 109,226,419 | 33,311 | 5,309 | 146,590,306 | 27,612 | 8,588 | 255,816,725 | 29,788 |
| 10-14 | 2,871 | 108,584,724 | 37,821 | 4,680 | 143,239,602 | 30,607 | 7,551 | 251, 824,326 | 33,350 |
| 15-19 | 2,045 | 86,596,992 | 42,346 | 2,875 | 100,325,556 | 34,896 | 4,920 | 186,922,548 | 37,992 |
| 20-24 | 1,361 | 60,142,351 | 44,190 | 2,126 | 77,058,139 | 36,246 | 3,487 | 137,200,490 | 39,346 |
| 25-29 | 1,469 | 75,381,828 | 51,315 | 1,889 | 78,185,388 | 41,390 | 3,358 | 153,567,216 | 45,732 |
| 30-34 | 769 | $47,655,672$ | 61,971 | 757 | $36,595,032$ | 48,342 | 1,526 | 84,250,704 | 55,210 |
| 35-39 | 214 | 15,094,752 | 70,536 | 172 | 9,056,028 | 52,651 | 386 | 24,150,780 | 62,567 |
| $40+$ | 61 | 4,918,248 | 80,627 | 35 | 2,037,864 | 58,225 | 96 | 6,956,112 | 72,460 |
| TOTAL | 19,827 | 707,789,146 | 35,698 | 27,953 | 817,399,387 | 29,242 | 47,780 | 525,188,532 | 31,921 |

KENTUCKY EMPLOYEES RETIREMENT SYSTEM
HAZARDOUS DUTY EMPLOYEE CLASSIFICATION JUNE 30, 2001

EARNINGS BY AGE GROUPS

| AGE | COUNT | . MALE. . . <br> EARNINGS | AVERAGE | COUNT | . . . FEMALE EARNINGS | AVERAGE | COUNT | . .TOTAL | AVERAGE |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| GROUP |  |  |  |  |  |  |  | EARNINGS |  |
| 0-19 | 60 | 894,163 | 14,903 | 3 | 58,104 | 19,368 | 63 | 952,267 | 15,115 |
| 20-24 | 168 | 3,148,260 | 18,740 | 35 | 637,920 | 18,226 | 203 | 3,786,180 | 18,651 |
| 25-29 | 337 | 7,234,476 | 21,467 | 113 | 2,480,940 | 21,955 | 450 | 9,715,416 | 21,590 |
| 30-34 | 384 | 9,370,008 | 24,401 | 156 | 3,663,648 | 23,485 | 540 | 13,033,656 | 24,136 |
| 35-39 | 399 | 11,020,116 | 27,619 | 160 | 4,104,156 | 25,651 | 559 | 15,124,272 | 27,056 |
| 40-44 | 387 | 11,908,668 | 30,772 | 191 | 5,998,692 | 31,407 | 578 | 17,907,360 | 30,982 |
| 45-49 | 425 | 14,221,860 | 33,463 | 211 | 6,634,788 | 31,444 | 636 | 20,856,648 | 32,793 |
| 50-54 | 505 | 18,700,344 | 37,030 | 162 | 4,932,132 | 30,445 | 667 | 23,632,476 | 35,431 |
| 55-59 | 280 | 10,244,544 | 36,588 | 86 | 2,683,320 | 31,201 | 366 | 12,927,864 | 35,322 |
| 60-64 | 100 | 3,473,664 | 34,737 | 33 | 1,076,412 | 32,619 | 133 | 4,550,076 | 34,211 |
| 65-69 | 21 | 692,592 | 32,981 | 6 | 217,944 | 36,324 | 27 | 910,536 | 33,724 |
| 70-74 | 4 | 159,732 | 39,933 | 2 | 90,924 | 45,462 | 6 | 250,656 | 41,776 |
| 75+ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 3,070 | 91,068,427 | 29,664 | 1,158 | 32,578,980 | 28,134 | 4,228 | 123,647,407 | 29,245 |

EARNINGS BY SERVICE GROUPS

| $\substack{\text { SERVICE } \\ \text { GROUP } \\ \\ \\ 0 \\ 1 \\ 2}$ | COUNT |  | EARNINGS |  | AVERAGE |
| ---: | ---: | ---: | ---: | :---: | :---: |
| 3 | 278 | $4,382,383$ | 15,764 |  |  |
| 4 | 241 | $5,883,360$ | 24,412 |  |  |
|  | 157 | $4,252,404$ | 27,085 |  |  |
| $0-4$ | 1,395 | $33,245,803$ | 23,832 |  |  |
| $5-9$ | 544 | $16,465,812$ | 30,268 |  |  |
| $10-14$ | 864 | $29,965,080$ | 34,682 |  |  |
| $15-19$ | 179 | $7,289,772$ | 40,725 |  |  |
| $20-24$ | 50 | $2,187,672$ | 43,753 |  |  |
| $25-29$ | 32 | $1,600,368$ | 50,012 |  |  |
| $30-34$ | 5 | 239,064 | 47,813 |  |  |
| $35-39$ | 1 | 74,856 | 74,856 |  |  |
| $40+$ | 0 | 0 | 0 |  |  |


| COUNT | EARNINGS | AVERAGE | COUNT | EARNINGS | AVERAGE |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 113 | 1,991,496 | 17,624 | 391 | 6,373,879 | 16,301 |
| 169 | 3,769,680 | 22,306 | 598 | 13,057,956 | 21,836 |
| 119 | 3,033,324 | 25,490 | 360 | 8,916,684 | 24,769 |
| 91 | 2,287,200 | 25,134 | 381 | 11,726,580 | 30,778 |
| 80 | 2,069,580 | 25,870 | 237 | 6,321,984 | 26,675 |
| 572 | 13,151,280 | 22,992 | 1,967 | 46,397,083 | 23,588 |
| 213 | 6,171,984 | 28,976 | 757 | 22,637,796 | 29,905 |
| 309 | 10,530,924 | 34,081 | 1,173 | 40,496,004 | 34,523 |
| 41 | 1,747,224 | 42,615 | 220 | 9,036,996 | 41,077 |
| 23 | 977,568 | 42,503 | 73 | 3,165,240 | 43,359 |
| 0 | 0 | 0 | 32 | 1,600,368 | 50,012 |
| 0 | 0 | 0 | 5 | 239,064 | 47,813 |
| 0 | 0 | 0 | 1 | 74,856 | 74,856 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 1,158 | 32,578,980 | 28,134 | 4,228 | 123,647,407 | 29,245 |

## KENTUCKY EMPLOYEES RETIREMENT SYSTEM NONHAZARDOUS DUTY EMPLOYEE CLASSIFICATION <br> JUNE 30, 2001

SERVICE GROUPS BY AGE GROUPS
MALE

| AGE | GROUP |  |  |  |  |  | SERVICE |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |
| GROUP | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | $40+$ | TOTAL |
| 0-19 | 849 | 6 | 1 | 1 | 1 |  |  |  |  | 858 |
| 20-24 | 1,347 | 84 | 1 |  |  |  |  |  |  | 1,432 |
| 25-29 | 1,152 | 284 | 10 |  |  |  |  |  |  | 1,446 |
| 30-34 | 1,057 | 623 | 292 | 15 |  |  |  |  |  | 1,987 |
| 35-39 | 773 | 495 | 625 | 313 | 27 |  |  |  |  | 2,233 |
| 40-44 | 730 | 427 | 539 | 563 | 352 | 85 |  |  |  | 2,696 |
| 45-49 | 690 | 444 | 474 | 423 | 402 | 527 | 125 |  |  | 3,085 |
| 50-54 | 602 | 376 | 386 | 339 | 282 | 491 | 379 | 66 |  | 2,921 |
| 55-59 | 352 | 292 | 277 | 205 | 162 | 242 | 188 | 106 | 22 | 1,846 |
| 60-64 | 144 | 159 | 173 | 125 | 105 | 94 | 56 | 33 | 17 | 906 |
| 65-69 | 35 | 59 | 62 | 39 | 20 | 21 | 15 | 7 | 18 | 276 |
| 70-74 | 20 | 20 | 27 | 17 | 7 | 4 | 4 | 1 | 3 | 103 |
| 75+ | 7 | 10 | 4 | 5 | 3 | 5 | 2 | 1 | 1 | 38 |
| TOTAL | 7,758 | 3,279 | 2,871 | 2,045 | 1,361 | 1,469 | 769 | 214 | 61 | 19,827 |

## FEMALE <br> AGE

$\qquad$

| GROUP. |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| GROUP | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | $40+$ | TOTAL |
| 0-19 | 89 |  |  |  | 1 | 1 |  |  |  | 91 |
| 20-24 | 1,057 | 36 |  |  | 2 | 1 | 1 |  |  | 1,097 |
| 25-29 | 2,155 | 467 | 34 |  |  |  |  |  |  | 2,656 |
| 30-34 | 1,654 | 1,044 | 514 | 36 |  |  |  |  |  | 3,248 |
| 35-39 | 1,347 | 835 | 914 | 453 | 57 | 1 |  |  |  | 3,607 |
| 40-44 | 1,320 | 865 | 807 | 635 | 569 | 170 |  |  |  | 4,366 |
| 45-49 | 1,096 | 809 | 799 | 584 | 600 | 736 | 177 |  |  | 4,801 |
| 50-54 | 795 | 642 | 767 | 531 | 413 | 496 | 370 | 52 |  | 4,066 |
| 55-59 | 416 | 375 | 486 | 365 | 267 | 300 | 141 | 92 | 12 | 2,454 |
| 60-64 | 132 | 168 | 251 | 202 | 152 | 146 | 50 | 19 | 17 | 1,137 |
| 65-69 | 32 | 50 | 83 | 49 | 42 | 25 | 12 | 4 | 2 | 299 |
| 70-74 | 9 | 16 | 17 | 17 | 16 | 9 | 5 | 4 | 3 | 96 |
| 75+ | 8 | 2 | 8 | 3 | 7 | 4 | 1 | 1 | 1 | 35 |
| TOTAL | 10,110 | 5,309 | 4,680 | 2,875 | 2,126 | 1,889 | 757 | 172 | 35 | 27,953 |

TOTAL


```
KENTUCKY EMPLOYEES RETIREMENT SYSTEM
HAZARDOUS DUTY EMPLOYEE CLASSIFICATION
                    JUNE 30, 2001
```

SERVICE GROUPS BY AGE GROUPS
MALE


## FEMALE <br> AGE



| GROUP. |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| GROUP | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | $40+$ | TOTAL |
| 0-19 | 3 |  |  |  |  |  |  |  |  | 3 |
| 20-24 | 33 | 2 |  |  |  |  |  |  |  | 35 |
| 25-29 | 99 | 14 |  |  |  |  |  |  |  | 113 |
| 30-34 | 101 | 32 | 23 |  |  |  |  |  |  | 156 |
| 35-39 | 81 | 30 | 44 | 4 | 1 |  |  |  |  | 160 |
| 40-44 | 75 | 40 | 48 | 14 | 14 |  |  |  |  | 191 |
| 45-49 | 86 | 42 | 63 | 13 | 7 |  |  |  |  | 211 |
| 50-54 | 60 | 32 | 60 | 9 | 1 |  |  |  |  | 162 |
| 55-59 | 25 | 14 | 46 | 1 |  |  |  |  |  | 86 |
| 60-64 | 7 | 6 | 20 |  |  |  |  |  |  | 33 |
| 65-69 | 2 | 1 | 3 |  |  |  |  |  |  | 6 |
| 70-74 |  |  | 2 |  |  |  |  |  |  | 2 |
| 75+ |  |  |  |  |  |  |  |  |  | 0 |
| TOTAL | 572 | 213 | 309 | 41 | 23 | 0 | 0 | 0 | 0 | 1,158 |

TOTAL


## KENTUCKY EMPLOYEES RETIREMENT SYSTEM NONHAZARDOUS DUTY EMPLOYEE CLASSIFICATION JUNE 30, 2001

AVERAGE EARNINGS FOR SERVICE GROUPS BY AGE GROUPS

$\begin{array}{lr}\text { TOTAL EARNINGS } & 1,525,188,532 \\ \text { AVERAGE SERVICE } & 42.45 \\ \text { AVERAGE AGE } & 10.37\end{array}$

Note: Earnings shown in this matrix
have not been limited by 401 (a) (17).

> KENTUCKY EMPLOYEES RETIREMENT SYSTEM HAZARDOUS DUTY EMPLOYEE CLASSIFICATION JUNE 30,2001

AVERAGE EARNINGS FOR SERVICE GROUPS BY AGE GROUPS


| TOTAL EARNINGS | $123,647,407$ | Note: Earnings shown in this |
| :--- | ---: | :--- |
| AVERAGE SERVICE | 41.62 | matrix |
| AVERAGE AGE | 6.57 | have not been limited by |

KENTUCKY EMPLOYEES RETIREMENT SYSTEM NONHAZARDOUS DUTY EMPLOYEE CLASSIFICATION

TABULATION BY MONTHLY SALARY
JUNE 30, 2001

NUMBER OF MEMBERS

| MONTHLY SALARY |  |  |  | MALES | FEMALES | TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | UNDER | \$ | 500 | 122 | 91 | 213 |
| \$ | $500-$ | - \$ | 749 | 106 | 143 | 249 |
| \$ | $750-$ | - \$ | 999 | 249 | 540 | 789 |
| \$ | 1,000 - | - \$ | 1,249 | 757 | 1,582 | 2,339 |
| \$ | 1,250 - | - \$ | 1,499 | 1,692 | 2,706 | 4,398 |
| \$ | 1,500 - | - \$ | 1,749 | 1,829 | 3,255 | 5,084 |
| \$ | 1,750 - | - \$ | 1,999 | 1,719 | 3,070 | 4,789 |
| \$ | 2,000 - | - \$ | 2,249 | 1,665 | 3,262 | 4,927 |
| \$ | 2,250 - | - \$ | 2,499 | 1,502 | 2,662 | 4,164 |
| \$ | 2,500 - | - \$ | 2,749 | 1,387 | 2,072 | 3,459 |
| \$ | 2,750 - | - \$ | 2,999 | 1,234 | 1,879 | 3,113 |
| \$ | 3,000 - | - \$ | 3,499 | 1,939 | 2,598 | 4,537 |
| \$ | 3,500 - | - \$ | 3,999 | 1,461 | 1,619 | 3,080 |
| \$ | 4,000 - | - \$ | 4,499 | 1,085 | 956 | 2,041 |
| \$ | 4,500 - | - \$ | 4,999 | 825 | 607 | 1,432 |
| \$ | 5,000 - | - \$ | 5,499 | 599 | 373 | 972 |
| \$ | 5,500 - | - \$ | 5,999 | 496 | 218 | 714 |
| \$ | 6,000 - | - \$ | 6,499 | 331 | 110 | 441 |
| \$ | 6,500 - | - \$ | 6,999 | 219 | 74 | 293 |
| \$ | 7,000 - | - \$ | 7,499 | 197 | 47 | 244 |
| \$ | 7,500 - | - \$ | 7,999 | 105 | 21 | 126 |
| \$ | 8,000 - | - \$ | 8,499 | 100 | 21 | 121 |
| \$ | 8,500 - | - \$ | 8,999 | 59 | 11 | 70 |
| \$ | 9,000 - | - \$ | 9,499 | 25 | 5 | 30 |
| \$ | 9,500 - | - \$ | 9,999 | 21 | 8 | 29 |
| \$ | 10,000 | AND | OVER | 103 | 23 | 126 |
|  |  |  | TAL | 19,827 | 27,953 | 47,780 |
|  | ENSATED LARY OF | $\begin{aligned} & \text { ED EI } \\ & \text { OF \$8 } \end{aligned}$ | PLOY | 572 | 123 | 695 |

$$
\text { K - } 34
$$

KENTUCKY EMPLOYEES RETIREMENT SYSTEM
HAZARDOUS DUTY EMPLOYEE CLASSIFICATION
TABULATION BY MONTHLY SALARY
JUNE 30, 2001

| MONTHLY SALARY |  |  |  | NUMBER OF MEMBERS |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | MALES | FEMALES | TOTAL |
|  | UNDER | \$ | 500 | 31 | 6 | 37 |
| \$ | 500 | - \$ | 749 | 8 | 2 | 10 |
| \$ | 750 | - \$ | 999 | 42 | 22 | 64 |
| \$ | 1,000 | - \$ | 1,249 | 51 | 28 | 79 |
| \$ | 1,250 | - \$ | 1,499 | 186 | 65 | 251 |
| \$ | 1,500 | - \$ | 1,749 | 405 | 200 | 605 |
| \$ | 1,750 | - \$ | 1,999 | 431 | 189 | 620 |
| \$ | 2,000 | - \$ | 2,249 | 429 | 148 | 577 |
| \$ | 2,250 | - \$ | 2,499 | 287 | 102 | 389 |
| \$ | 2,500 | - \$ | 2,749 | 292 | 94 | 386 |
| \$ | 2,750 | - \$ | 2,999 | 208 | 81 | 289 |
| \$ | 3,000 | - \$ | 3,499 | 301 | 96 | 397 |
| \$ | 3,500 | - \$ | 3,999 | 153 | 67 | 220 |
| \$ | 4,000 | - \$ | 4,499 | 109 | 22 | 131 |
| \$ | 4,500 | - \$ | 4,999 | 48 | 18 | 66 |
| \$ | 5,000 | - \$ | 5,499 | 29 | 7 | 36 |
| \$ | 5,500 | - \$ | 5,999 | 23 | 4 | 27 |
| \$ | 6,000 | - \$ | 6,499 | 15 | 3 | 18 |
| \$ | 6,500 | - \$ | 6,999 | 6 | 2 | 8 |
| \$ | 7,000 | - \$ | 7,499 | 2 | 0 | 2 |
| \$ | 7,500 | - \$ | 7,999 | 2 | 0 | 2 |
| \$ | 8,000 | - \$ | 8,499 | 0 | 0 | 0 |
| \$ | 8,500 | - \$ | 8,999 | 1 | 0 | 1 |
| \$ | 9,000 | - \$ | 9,499 | 3 | 0 | 3 |
| \$ | 9,500 | - \$ | 9,999 | 1 | 0 | 1 |
| \$ | 10,000 | AND | OVER | 7 | 2 | 9 |
|  |  |  | TAL | 3,070 | 1,158 | 4,228 |

HIGHLY COMPENSATED EMPLOYEES (ESTIMATED) ANNUAL SALARY OF \$85,000 AND OVER

15
2

## KENTUCKY EMPLOYEES RETIREMENT SYSTEM

 NONHAZARDOUS DUTY EMPLOYEE CLASSIFICATION MEMBERS WITH SERVICE IN ANOTHER SYSTEMJUNE 30, 2001

MEMBERS CURRENTLY ACTIVE IN KERS NONHAZARDOUS

| SERVICE IN | ACTIVE IN OTHER SYSTEM | INACTIVE IN OTHER SYSTEM | TOTAL |
| :---: | :---: | :---: | :---: |
| KERS - HAZARDOUS | 0 | 344 | 344 |
| CERS - NONHAZARDOUS | 542 | 2,358 | 2,900 |
| CERS - HAZARDOUS | 22 | 73 | 95 |
| STATE POLICE | 0 | 13 | 13 |
| TOTAL - ALL SYSTEMS | 564 | 2,788 | 3,352 |
| MEMBERS CURRENTLY NOT ACTIVE IN KERS NONHAZARDOUS |  |  |  |
| SERVICE IN | ACTIVE IN OTHER SYSTEM | INACTIVE IN OTHER SYSTEM | TOTAL |
| KERS - HAZARDOUS | 1,606 | 51 | 1,657 |
| CERS - NONHAZARDOUS | 2,028 | 209 | 2,237 |
| CERS - HAZARDOUS | 279 | 29 | 308 |
| State police | 109 | 9 | 118 |
| TOTAL - ALL SYSTEMS | 4,022 | 298 | 4,320 |

NOTE: DOES NOT INCLUDE INDIVIDUALS IN PAY STATUS IN OTHER SYSTEMS

KENTUCKY EMPLOYEES RETIREMENT SYSTEM HAZARDOUS DUTY EMPLOYEE CLASSIFICATION MEMBERS WITH SERVICE IN ANOTHER SYSTEM

JUNE 30, 2001

MEMBERS CURRENTLY ACTIVE IN KERS HAZARDOUS

| SERVICE IN | ACTIVE IN OTHER SYSTEM | INACTIVE IN OTHER SYSTEM | TOTAL |
| :---: | :---: | :---: | :---: |
| KERS - NONHAZARDOUS | 0 | 1,606 | 1,606 |
| CERS - NONHAZARDOUS | 21 | 216 | 237 |
| CERS - HAZARDOUS | 11 | 33 | 44 |
| STATE POLICE | 1 | 7 | 8 |
| TOTAL - ALL SYSTEMS | 33 | 1,862 | 1,895 |
| MEMBERS CURRENTLY NOT ACTIVE IN KERS HAZARDOUS |  |  |  |
| SERVICE IN | ACTIVE IN OTHER SYSTEM | INACTIVE IN OTHER SYSTEM | TOTAL |
| KERS - NONHAZARDOUS | 344 | 51 | 395 |
| CERS - NONHAZARDOUS | 55 | 58 | 113 |
| CERS - HAZARDOUS | 108 | 5 | 113 |
| STATE POLICE | 20 | 1 | 21 |
| TOTAL - ALL SYSTEMS | 527 | 115 | 642 |

NOTE: DOES NOT INCLUDE INDIVIDUALS IN PAY STATUS IN OTHER SYSTEMS

$$
\text { K - } 37
$$

KENTUCKY EMPLOYEES RETIREMENT SYSTEM NONHAZARDOUS DUTY EMPLOYEE CLASSIFICATION

RETIRED LIVES SUMMARY
JUNE 30, 2001

| BASIC FORM | 2,424 | 2,288,742.89 | 5,965 | 4,907,621.10 | 8,389 | 7,196,363.99 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| STRAIGHT LIFE (OLD PLAN) | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| JOINT \& SURVIVOR |  |  |  |  |  |  |
| 100\% TO BENEFICIARY | 1,658 | 1,568,516.05 | 540 | 332,839.92 | 2,198 | 1,901,355.97 |
| 66-2/3\% TO BENEFICIARY | 683 | 1,056,366.56 | 174 | 204,844.31 | 857 | 1,261,210.87 |
| 50\% TO BENEFICIARY | 859 | 1,160,224.57 | 545 | 697,936.35 | 1,404 | 1,858,160.92 |
| POP-UP OPTION | 1,565 | 2,166,629.95 | 868 | 1,057,130.33 | 2,433 | 3,223,760.28 |
| 10 YEARS CERTAIN | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 10 YEARS CERTAIN \& LIFE | 1,100 | 876,392.79 | 1,473 | 1,218,820.42 | 2,573 | 2,095,213.21 |
| SOCIAL SECURITY OPTION |  |  |  |  |  |  |
| OPTION C | 379 | 608,226.14 | 855 | 1,110,990.08 | 1,234 | 1,719,216.22 |
| OPTION D | 781 | 1,152,484.56 | 440 | 580,213.86 | 1,221 | 1,732,698.42 |
| OPTION E | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| OPTION F | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| DEPENDENT CHILD | 0 | 0.00 | 1 | 188.76 | 1 | 188.76 |
| REFUND | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 15 YEARS CERTAIN \& LIFE | 362 | 364,149.64 | 285 | 258,731.28 | 647 | 622,880.92 |
| 20 YEARS CERTAIN \& LIFE | 247 | 295,755.32 | 236 | 257,726.07 | 483 | 553,481.39 |
| 5 YEARS ONLY | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| TOTAL | 10,058 | 11,537,488.47 | 11,382 | 10,627,042.48 | 21,440 | 22,164,530.95 |
|  |  |  |  |  |  |  |

## KENTUCKY EMPLOYEES RETIREMENT SYSTEM

HAZARDOUS DUTY EMPLOYEE CLASSIFICATION
RETIRED LIVES SUMMARY
JUNE 30, 2001

|  | male lives |  | FEMALE LIVES |  | TOTAL |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | MONTHLY |  | MONTHLY |  | MONTHLY |  |
|  | NUMBER | BENEFITS | NUMBER | BENEFITS | NUMBER | BENEFITS |
| BASIC FORM | 149 | 100,814.75 | 101 | 51,163.88 | 250 | 151,978.63 |
| STRAIGHT LIFE (OLD PLAN) | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| JOINT \& SURVIVOR |  |  |  |  |  |  |
| 100\% TO BENEFICIARY | 103 | 67,906.28 | 4 | 3,426.95 | 107 | 71,333.23 |
| 66-2/3\% TO BENEFICIARY | 37 | 30,796.55 | 5 | 3,880.64 | 42 | 34,677.19 |
| 50\% TO BENEFICIARY | 49 | 43,550.80 | 5 | 6,367.98 | 54 | 49,918.78 |
| POP-UP OPTION | 161 | 131,870.23 | 24 | 16,087.43 | 185 | 147,957.66 |
| 10 YEARS CERTAIN | 16 | 12,247.76 | 5 | 3,146.96 | 21 | 15,394.72 |
| 10 YEARS CERTAIN \& LIFE | 64 | 36,254.87 | 23 | 12,733.68 | 87 | 48,988.55 |
| SOCIAL SECURITY OPTION |  |  |  |  |  |  |
| OPTION C | 27 | 20,191.71 | 15 | 9,027.46 | 42 | 29,219.17 |
| OPTION D | 68 | 67,955.51 | 10 | 4,461.19 | 78 | 72,416.70 |
| OPTION E | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| OPTION F | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| DEPENDENT CHILD | 8 | 1,841.55 | 10 | 2,127.82 | 18 | 3,969.37 |
| REFUND | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 15 YEARS CERTAIN \& LIFE | 20 | 13,997.01 | 6 | 4,657.73 | 26 | 18,654.74 |
| 20 YEARS CERTAIN \& LIFE | 22 | 17,368.88 | 1 | 407.10 | 23 | 17,775.98 |
| 5 YEARS ONLY | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| TOTAL | 724 | 544,795.90 | 209 | 117,488.82 | 933 | 662,284.72 |
|  |  | K-3 |  |  |  |  |

KENTUCKY EMPLOYEES RETIREMENT SYSTEM NONHAZARDOUS DUTY EMPLOYEE CLASSIFICATION

BENEFICIARY SUMMARY
JUNE 30, 2001

|  | MALE LIVES |  | FEMALE LIVES |  | TOTAL |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | MONTHLY |  | MONTHLY |  | MONTHLY |  |
|  | NUMBER | BENEFITS | NUMBER | BENEFITS | NUMBER | BENEFITS |
| BASIC FORM | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| STRAIGHT LIFE (OLD PLAN) | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| JOINT \& SURVIVOR |  |  |  |  |  |  |
| 100\% TO BENEFICIARY | 242 | 131,433.16 | 1,669 | 926,331.14 | 1,911 | 1,057,764.30 |
| 66-2/3\% TO BENEFICIARY | 16 | 8,162.48 | 255 | 133,930.48 | 271 | 142,092.96 |
| 50\% TO BENEFICIARY | 52 | 22,529.97 | 492 | 176,447.17 | 544 | 198,977.14 |
| POP-UP OPTION | 35 | 30,918.93 | 150 | 107,724.47 | 185 | 138,643.40 |
| 10 YEARS CERTAIN | 77 | 59,873.24 | 65 | 53,095.53 | 142 | 112,968.77 |
| 10 YEARS CERTAIN \& LIFE | 61 | 39,572.25 | 82 | 68,826.22 | 143 | 108,398.47 |
| SOCIAL SECURITY OPTION |  |  |  |  |  |  |
| OPTION C | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| OPTION D | 19 | 15,460.80 | 124 | 139,374.22 | 143 | 154,835.02 |
| OPTION E | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| OPTION F | 0 | 0.00 | 17 | 6,871.86 | 17 | 6,871.86 |
| DEPENDENT CHILD | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| REFUND | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 15 YEARS CERTAIN \& LIFE | 26 | 21,505.88 | 96 | 71,426.47 | 122 | 92,932.35 |
| 20 YEARS CERTAIN \& LIFE | 29 | 25,267.64 | 47 | 40,373.54 | 76 | 65,641.18 |
| 5 YEARS ONLY | 75 | 61,808.82 | 49 | 63,232.97 | 124 | 125,041.79 |
| TOTAL | 632 | 416,533.17 | 3,046 | 1,787,634.07 | 3,678 | 2,204,167.24 |
|  | K - 40 |  |  |  |  |  |

KENTUCKY EMPLOYEES RETIREMENT SYSTEM HAZARDOUS DUTY EMPLOYEE CLASSIFICATION

BENEFICIARY SUMMARY
JUNE 30, 2001

|  | male lives |  | FEMALE LIVES |  | TOTAL |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | MONTHLY |  | MONTHLY |  | MONTHLY |  |
|  | NUMBER | BENEFITS | NUMBER | BENEFITS | NUMBER | BENEFITS |
| BASIC FORM | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| STRAIGHT LIFE (OLD PLAN) | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| JOINT \& SURVIVOR |  |  |  |  |  |  |
| 100\% TO BENEFICIARY | 5 | 1,601.55 | 50 | 29,931.87 | 55 | 31,533.42 |
| 66-2/3\% TO BENEFICIARY | 0 | 0.00 | 4 | 2,248.66 | 4 | 2,248.66 |
| 50\% TO BENEFICIARY | 0 | 0.00 | 8 | 2,298.69 | 8 | 2,298.69 |
| POP-UP OPTION | 0 | 0.00 | 9 | 3,137.99 | 9 | 3,137.99 |
| 10 YEARS CERTAIN | 5 | 2,898.16 | 4 | 1,136.25 | 9 | 4,034.41 |
| 10 YEARS CERTAIN \& LIFE | 2 | 2,018.46 | 8 | 1,018.66 | 10 | 3,037.12 |
| SOCIAL SECURITY OPTION |  |  |  |  |  |  |
| OPTION C | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| OPTION D | 1 | 17.11 | 7 | 6,474.01 | 8 | 6,491.12 |
| OPTION E | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| OPTION F | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| DEPENDENT CHILD | 2 | 563.16 | 0 | 0.00 | 2 | 563.16 |
| REFUND | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 15 YEARS CERTAIN \& LIFE | 1 | 161.73 | 0 | 0.00 | 1 | 161.73 |
| 20 YEARS CERTAIN \& LIFE | 0 | 0.00 | 4 | 908.62 | 4 | 908.62 |
| 5 YEARS ONLY | 8 | 1,909.85 | 2 | 1,696.59 | 10 | 3,606.44 |
| TOTAL | 24 | 9,170.02 | 96 | 48,851.34 | 120 | 58,021.36 |
|  |  | K-4 |  |  |  |  |

KENTUCKY EMPLOYEES RETIREMENT SYSTEM NONHAZARDOUS DUTY EMPLOYEE CLASSIFICATION

VESTED RETIREMENT SUMMARY
JUNE 30, 2001

| $\begin{array}{r}\text { AGE NEAREST } \\ \text { BIRTHDAY } \\ \hline\end{array}$ | MALE LIVES |  | FEMALE LIVES |  | TOTAL |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | MONTHLY |  | MONTHLY |  | MONTHLY |
|  | NUMBER | BENEFITS | NUMBER | BENEFITS | NUMBER | BENEFITS |
| 15-19 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 20-24 | 5 | 835.70 | 3 | 389.22 | 8 | 1,224.92 |
| 25-29 | 26 | 4,525.08 | 45 | 7,657.19 | 71 | 12,182.27 |
| 30-34 | 87 | 19,948.47 | 253 | 55,877.87 | 340 | 75,826.34 |
| 35-39 | 160 | 50,805.96 | 353 | 99,359.55 | 513 | 150,165.51 |
| 40-44 | 177 | 62,627.69 | 340 | 107,286.25 | 517 | 169,913.94 |
| 45-49 | 209 | 99,299.13 | 448 | 172,481.56 | 657 | 271,780.69 |
| 50-54 | 251 | 113,721.30 | 432 | 157,703.94 | 683 | 271,425.24 |
| 55-59 | 134 | 78,244.48 | 212 | 70,473.46 | 346 | 148,717.94 |
| 60-64 | 48 | 22,958.69 | 81 | 22,904.66 | 129 | 45,863.35 |
| 65-69 | 7 | 1,613.72 | 21 | 3,816.54 | 28 | 5,430.26 |
| 70-74 | 6 | 6,125.43 | 7 | 1,257.91 | 13 | 7,383.34 |
| 75-79 | 1 | 67.72 | 4 | 1,045.85 | 5 | 1,113.57 |
| 80-84 | 1 | 114.18 | 1 | 66.18 | 2 | 180.36 |
| $85+$ | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| TOTAL | 1,112 | 460,887.55 | 2,200 | 700,320.18 | 3,312 | 1,161,207.73 |

## KENTUCKY EMPLOYEES RETIREMENT SYSTEM

 HAZARDOUS DUTY EMPLOYEE CLASSIFICATIONVESTED RETIREMENT SUMMARY
JUNE 30, 2001

| AGE NEAREST BIRTHDAY | MALE LIVES |  | FEMALE LIVES |  | TOTAL |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | MONTHLY |  | MONTHLY |  | MONTHLY |
|  | NUMBER | BENEFITS | NUMBER | BENEFITS | NUMBER | BENEFITS |
| 15-19 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 20-24 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 25-29 | 3 | 446.26 | 0 | 0.00 | 3 | 446.26 |
| 30-34 | 13 | 2,898.94 | 5 | 1,048.31 | 18 | 3,947.25 |
| 35-39 | 16 | 6,200.49 | 8 | 2,418.28 | 24 | 8,618.77 |
| 40-44 | 14 | 5,850.58 | 7 | 2,165.13 | 21 | 8,015.71 |
| 45-49 | 13 | 3,840.75 | 6 | 1,421.15 | 19 | 5,261.90 |
| 50-54 | 17 | 5,179.96 | 8 | 1,895.71 | 25 | 7,075.67 |
| 55-59 | 4 | 698.18 | 5 | 955.25 | 9 | 1,653.43 |
| 60-64 | 2 | 515.84 | 1 | 462.17 | 3 | 978.01 |
| 65-69 | 0 | 0.00 | 1 | 11.58 | 1 | 11.58 |
| 70-74 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 75-79 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 80-84 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| $85+$ | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| TOTAL | 82 | 25,631.00 | 41 | 10,377.58 | 123 | 36,008.58 |

KENTUCKY EMPLOYEES RETIREMENT SYSTEM NONHAZARDOUS DUTY EMPLOYEE CLASSIFICATION

VESTED MEMBERSHIP SUMMARY
JUNE 30, 2001

| AGE NEARESTBIRTHDAY | MALE LIVES |  | FEMALE LIVES |  | TOTAL |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | ACCUMULATED |  | ACCUMULATED |  | ACCUMULATED |
|  | NUMBER | CONTRIBUTIONS | NUMBER | CONTRIBUTIONS | NUMBER | CONTRIBUTIONS |
| 15-19 | 1,106 | 201,314.07 | 74 | 17,018.53 | 1,180 | 218,332.60 |
| 20-24 | 388 | 386,810.26 | 386 | 179,714.03 | 774 | 566,524.29 |
| 25-29 | 645 | 492,130.33 | 1,131 | 1,001,727.04 | 1,776 | 1,493,857.37 |
| 30-34 | 761 | 701,314.30 | 1,270 | 1,528,377.85 | 2,031 | 2,229,692.15 |
| 35-39 | 638 | 657,758.60 | 1,014 | 1,180,250.56 | 1,652 | 1,838,009.16 |
| 40-44 | 545 | 690,588.68 | 942 | 1,048,112.09 | 1,487 | 1,738,700.77 |
| 45-49 | 599 | 741,458.05 | 948 | 1,449,656.41 | 1,547 | 2,191,114.46 |
| 50-54 | 606 | 966,230.63 | 756 | 1,450,332.75 | 1,362 | 2,416,563.38 |
| 55-59 | 327 | 612,879.66 | 444 | 934,974.16 | 771 | 1,547,853.82 |
| 60-64 | 200 | 414,290.01 | 249 | 415,437.58 | 449 | 829,727.59 |
| 65-69 | 115 | 122,378.46 | 94 | 70,100.88 | 209 | 192,479.34 |
| 70-74 | 61 | 37,746.13 | 47 | 30,866.27 | 108 | 68,612.40 |
| 75-79 | 31 | 12,888.46 | 21 | 10,166.41 | 52 | 23,054.87 |
| 80-84 | 10 | 4,612.97 | 10 | 4,532.82 | 20 | 9,145.79 |
| $85+$ | 7 | 1,090.58 | 4 | 1,095.63 | 11 | 2,186.21 |
| TOTAL | 6,039 | 6,043,491.19 | 7,390 | 9,322,363.01 | 13,429 | 15,365,854.20 |

## KENTUCKY EMPLOYEES RETIREMENT SYSTEM

 HAZARDOUS DUTY EMPLOYEE CLASSIFICATION VESTED MEMBERSHIP SUMMARYJUNE 30, 2001

| AGE NEAREST BIRTHDAY | MALE LIVES |  | FEMALE LIVES |  | TOTAL |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | ACCUMULATED |  | ACCUMULATED |  | ACCUMULATED |
|  | NUMBER | CONTRIBUTIONS | NUMBER | CONTRIBUTIONS | NUMBER | CONTRIBUTIONS |
| 15-19 | 97 | 16,650.50 | 0 | 0.00 | 97 | 16,650.50 |
| 20-24 | 34 | 22,989.56 | 11 | 7,737.06 | 45 | 30,726.62 |
| 25-29 | 107 | 73,482.01 | 37 | 37,607.40 | 144 | 111,089.41 |
| 30-34 | 126 | 119,481.11 | 30 | 30,991.38 | 156 | 150,472.49 |
| 35-39 | 72 | 57,537.19 | 39 | 64,781.17 | 111 | 122,318.36 |
| 40-44 | 41 | 42,142.92 | 33 | 57,937.93 | 74 | 100,080.85 |
| 45-49 | 46 | 33,120.63 | 19 | 26,728.11 | 65 | 59,848.74 |
| 50-54 | 37 | 49,073.26 | 17 | 23,851.09 | 54 | 72,924.35 |
| 55-59 | 20 | 14,706.93 | 14 | 22,095.37 | 34 | 36,802.30 |
| 60-64 | 13 | 15,959.49 | 3 | 5,078.32 | 16 | 21,037.81 |
| 65-69 | 2 | 1,335.55 | 0 | 0.00 | 2 | 1,335.55 |
| 70-74 | 1 | 211.92 | 0 | 0.00 | 1 | 211.92 |
| 75-79 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 80-84 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| $85+$ | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| TOTAL | 596 | 446,691.07 | 203 | 276,807.83 | 799 | 723,498.90 |

## SECTION VI

## SUMMARY OF PRINCIPAL PLAN PROVISIONS

## Effective Date

The state of Kentucky established the Kentucky Employees Retirement System in July, 1956. The plan benefits have been improved several times, most recently as of
August 1, 2001.

## Plan Year

A plan year is a twelve month period beginning on July 1.

## Final Compensation

Final compensation is the average salary during the five highest paid fiscal years for nonhazardous positions. If the months of service credit during the highest five year period is less than forty-eight, one or more additional fiscal years shall be used. For a member whose effective retirement date is between August 1, 2001 and January 1, 2009, and whose total service credit is at least 27 years and whose age and years of service total at least 75, final compensation is based on three years rather than five years.

For hazardous positions, final compensation is the average salary during the three highest paid fiscal years.

## Service

Service means the sum of prior service and current service as defined below:
(a) Prior service is credited for regular full-time employment of at least 100 hours of work per month with a participating agency before July 1,1956 . In some instances prior service credit is granted for time spent in the military.
(b) Current service is obtained for regular full-time employment which averages at least 100 hours of work per month with participating agencies after July 1, 1956. Current service credit may be granted for military service and educational leaves if special criteria are met.
(c) Service is increased by unused sick leave, up to a maximum of six months, for purposes of computing eligibility and the amount of benefits.

## Eligibility

Any state department, board, or agency shall participate in the System when directed to do so by the Executive Order of the Governor. Membership in the system consists of:
(a) all persons who become employees of a department after such department first participates,
(b) all persons who are employees on the date a department first participates and who elect within thirty days to become members and make contributions,
(c) all persons who are employees of any credit union whose membership is limited to state government employees,
(d) all persons who were professional staff employees of the Council on Public Higher Education or the Higher Education Assistance Authority and were making contributions to the system on the effective date of their respective Executive Order and filed a written election to continue in the System,
(e) all persons who were professional staff employees of the Kentucky Authority for Educational Television on or after July 1, 1974,
(f) members of the General Assembly and Constitutional officers of the General Assembly serving during the January, 1960 session or thereafter, and
(g) officers and employees of the General Assembly and their assistants if employed by the General Assembly during the January, 1960 session and thereafter, but only after serving during six sessions of the General Assembly.

## Normal Retirement Date

A member may elect to retire upon: (1) attaining age 65 for non-hazardous positions, or attaining age 55 for hazardous positions, and (2) having contributed to the System. Upon completion of 27 years of service credit, 15 of which are current service for non-hazardous positions, or completion of 20 years of service credit for hazardous positions, a member may elect to retire with an unreduced benefit.

## Early Retirement Date

A member may elect to retire before the normal retirement date at any time after: (1) for non-hazardous positions, attainment of age 55 and completion of 60 months of service credit at least 12 of which are current, or at any age after 25 years of service, or (2) for hazardous positions, attainment of age 50 and completion of 15 years of service credit.

## Normal Retirement Benefits

For non-hazardous positions, upon attainment of age 65 and completion of 48 months of service, of which 12 months are current service, a monthly benefit equal to $1.97 \%$ of the member's final compensation multiplied by his service will be payable. However, effective February 1, 1999, a member who was participating as of January 1, 1998 and continues to participate through January 1, 1999 shall receive a benefit based on a $2.00 \%$ formula rate. In addition, any such member whose effective date of retirement is between February 1, 1999 and January 31, 2009, and who has at least 20 years of service credit, shall receive a retirement allowance based on a $2.20 \%$ benefit formula rate. For hazardous positions, a monthly benefit equal to $2.49 \%$ of the member's final compensation multiplied by his service will be payable upon attainment of age 55 and completion of 60 months of service of which 12 months
are current service. A member, with less than 48 months for non-hazardous positions or 60 months for hazardous positions, who retires on or after the normal retirement date is entitled to a retirement allowance which pays the actuarial equivalent of twice the member's accumulated contributions for life.

## Early Retirement Benefits

A member who elects early retirement is entitled to a monthly benefit reduced for each month by which the early retirement date precedes the first date on which the member would qualify for an unreduced benefit. If a non-hazardous position employee has 27 or more years of service credit, 15 of which are current, or a hazardous position employee has 20 or more years of service credit, an unreduced benefit is payable.

## Minimum Benefit

The normal retirement benefit for members with 10 or more years of service, at least one of which is current service, shall not be less than $\$ 512$ per year.

## Disability Benefits

A member with 60 months of service, 12 of which must be current service, is entitled to a retirement allowance computed in the same manner as the normal retirement benefit with service and final compensation determined as of the disability date. Service credit shall be added on to total service for the period from the last day of paid employment to the 65th birthday (55th for members in a hazardous position) up to a maximum of service credited to the last day of paid employment. Except for members with 25 or more ( 20 or more for hazardous) years of service on the last day of paid employment, the maximum combined service credit (total service and added service) shall not exceed 25 years ( 20 years for hazardous members). For non-hazardous position employees with 25 or more years of service credit, additional years of service credit will be added up to a maximum combined limit of 30 , or actual service if greater. For hazardous position employees with 20 or more years of service credit, actual service will be used.

A member in a hazardous position who is disabled in the line of duty is entitled to a retirement benefit of not less than $25 \%$ of the member's final monthly rate of pay plus $10 \%$ of his final monthly rate of pay for each dependent child. The maximum dependent child's benefit is $40 \%$ of the member's final monthly rate of pay. A partial disability benefit may be payable to hazardous employees if the disability is not total and permanent. The disability will be reduced to a rate determined by the Board.

## Death Benefits

If a member dies prior to retirement, but after 60 months of service, 12 of which are current and who is a contributing member, or after 12 years of service, one of which is current and who is not a contributing member, or after 48 months service if the member is age 65 or over, a benefit will be payable to the beneficiary based on the member's age, years of service and final compensation at the date of death. The benefit will be equal to the amount payable had the employee retired and elected a joint and $100 \%$ survivorship payment form.

If a member in a hazardous position dies in the line of duty and has a spouse as beneficiary, a $\$ 5,000$ lump sum payment will be made and a benefit of $25 \%$ of the member's final monthly rate of pay will be payable until death or remarriage. If the member in a hazardous position dies in the line of duty and has a dependent as beneficiary, a lump sum payment of $\$ 10,000$ will be made. Monthly payments shall be made for each dependent child equal to $10 \%$ of the member's final monthly rate of pay, but not greater than $40 \%$ of the member's final monthly rate of pay. The beneficiary of a hazardous duty member with 5 or more years of service, one of which is current, may elect a death benefit computed in the same manner as a non-hazardous employee using $2.49 \%$ rather than $1.97 \%$.

Upon the death of a retired member, who had a minimum of 48 months of service credit, a death benefit of $\$ 5,000$ is payable.

## Optional Forms of Payment

Joint and survivor annuities which provide a reduced benefit for the life of the member, with the benefit at the same or at a further reduced rate continuing after the member's death until the death of the designated beneficiary may be elected by the member prior to retirement. Other optional forms include a life annuity with 10,15 or 20 years of payments guaranteed and a Social Security adjustment with or without survivor rights.

## Contributions

Members contribute 5\% of gross compensation ( $8 \%$ for hazardous positions). On each June 30, interest is credited at the rate to be determined by the Board on the accumulated contributions the member had in his account on the previous June 30. Upon termination a member may withdraw the contributions with interest, but will be entitled to no benefit payments.

## Medical Insurance

Recipients of a retirement benefit may elect to participate in a voluntary hospital/medical group insurance plan for themselves as well as any beneficiaries or dependents. The cost of participation for any beneficiaries or dependents is borne by the retiree (except that dependents of hazardous position employees and legislators will have the same percentage paid by the system as the member). The retirement system will pay a portion of the cost of participation for the retiree based on years of service credit as follows:

| Less than 4 years | $0 \%$ |
| :--- | :---: |
| $4-9$ years | $25 \%$ |
| $10-14$ years | $50 \%$ |
| $15-19$ years | $75 \%$ |
| 20 or more years | $100 \%$ |

If a hazardous member is disabled in the line of duty, the retirement system will pay $100 \%$ of the cost of the member, spouse and eligible dependents. If a hazardous member is killed in the line of duty, the retirement system will pay $100 \%$ of the cost of the beneficiary and eligible dependents as long as they remain eligible for a monthly benefit payment.

## Increase in Retirement Allowances

Effective August 1, 1996, and on July 1 of each year thereafter, a recipient of a retirement allowance shall have his retirement allowance increased by the percentage increase in the annual average of the consumer price index for all urban consumers for the most recent calendar year as published by the federal Bureau of Labor Statistics, not to exceed five percent (5\%). In determining the annual employer contribution rate, only the cost of increases granted as of the most recent valuation date shall be recognized. The benefits of this subsection as provided on August 1, 1996 and thereafter shall not be considered as benefits protected by the inviolable contract provisions of KRS 61.692, 16.652, and 78.852. The General Assembly reserves the right to suspend or reduce the benefits conferred in this subsection if in their judgment the welfare of the Commonwealth so demands.

# FORTY-SECOND ANNUAL ACTUARIAL VALUATION 

JUNE 30, 2001
COUNTY EMPLOYEES RETIREMENT SYSTEM FRANKFORT, KENTUCKY

## SECTION I

## INTRODUCTION

The results of the forty-second annual actuarial valuation of the County Employees Retirement System are presented in this report. The actuarial valuation was made on the basis of the data provided by the System as of June 30, 2001.

The purpose of the actuarial valuation is to determine the actuarial condition of the Retirement System and the rate of employer contribution for the ensuing fiscal year as required to support the System.

The plan provisions utilized in this valuation are described in the Summary of Principal Plan Provisions in Section VI. The basis of funding is defined in KRS 61.565 and provides that the actuarial valuation method would be uniform for all benefits provided by the System. The Entry Age Normal Actuarial cost method has been used for all benefits. KRS 61.565 provides that each employer participating in the System shall contribute an amount equal to the Normal Cost contribution rate, and an amount sufficient to amortize the Unfunded Actuarial Accrued Liability over 30 years using the level-percentage-ofpayroll method. This is the standard used herein to determine whether the funding of the System is adequate.

The actuarial valuation results are based upon the employee census and asset data supplied by the office of the System, and upon the actuarial assumptions as stated in Section II.

## SECTION II

## ACTUARIAL CONSIDERATIONS

## Description of Actuarial Methods

The actuarial valuation is the means by which the contingent liabilities and contribution rates of a retirement system are evaluated and determined. It provides a guide to the System to the financing required during years of active service to accumulate the funds needed to provide members' benefits. It also makes it possible to estimate beforehand the cost of proposed changes in the System so that action can be taken in the light of the cost consequences.

The methods of valuation are prescribed by KRS 61.565. The Entry Age Normal Cost Method was used to determine costs of all benefits with the exception of the retiree medical insurance benefit. Under this method the employer's contribution to the retirement system consists of Normal Cost, a payment to fund the Unfunded Actuarial Accrued Liability, medical insurance, and administrative expenses. The Normal Cost represents the contribution (as a level percent of payroll) that completely funds benefits at retirement if made from a person's entry into employment until his retirement. The Actuarial Accrued Liability represents the sum of money and investments that would be held in the fund if the retirement system had been in effect since the date each member was first employed. The payment to fund the Unfunded Actuarial Accrued Liability is the amount necessary to amortize this liability over 30 years using the "level-percentage-of-payroll" method. Under the "level-percentage-of-payroll" method, the amortization payment is an amount which remains constant as a percentage of payroll over the 30 years. The initial 30 year period began with the 1990 valuation. In each subsequent valuation, any change in Unfunded Actuarial Accrued Liability is identified and established as a separate amortization base with a 30 year funding period beginning with that valuation. The change in Unfunded Actuarial Accrued Liability established as a separate base in each valuation will include changes attributable to experience gains and/or losses over the prior year, as well as changes attributable to benefit improvements and revisions in actuarial assumptions and funding methods.

The medical insurance contribution rate was originally determined in the 1987 valuation as the level percent of payroll necessary to fund projected medical insurance premiums over the next sixteen years (taking into account the level of reserves in the Insurance Fund). Beginning in 1988, this rate was increased each year by a percentage amount needed to reach the Entry Age Normal funding rate within a 20 year period measured from 1987. This was continued through the 1992 valuation. In the 1992 valuation, an acceleration of the scheduled increases in the medical insurance contribution rate was recommended where possible. This acceleration in these rates was coupled with a deferral of future increases until the time of the next experience study, unless there was a deterioration in the funded position of the medical premium benefit in which case the rate levels were to be reviewed to redetermine an appropriate current funding level, or unless recommended contributions are not made in the prior year, in which case the shortfall would be spread over future years through an increase in the contribution rate. This continued through the 1995 valuation. Effective with the 1996 valuation, a new medical insurance funding policy was adopted by the Board. Under this revised policy, the medical insurance contribution rate for the 1996 valuation was set equal to the 1995 rate plus any reduction in the retirement and administrative expense rates between the 1995 and 1996 valuations (but in no event to be less than the 1995 medical insurance contribution rate). Beginning with the 1997 valuation, the medical insurance contribution rate is to be increased each year by the percentage amount necessary to
raise this medical insurance rate to the full Entry Age Normal Cost Method contribution rate by the year 2016.

The Board reviewed this funding policy in conjunction with the experience study prepared following the 2000 valuation. The current policy relative to the establishment of the permanent portion of the insurance fund rate was not changed. But in years where there may be a temporary reduction in the retirement fund contribution rate, the Board may use the amount of that reduction as an additional temporary contribution to the insurance fund.

In computing the full Entry Age Normal Cost Method contribution rate, liabilities are to be developed based on actuarial assumptions in use in the current valuation (as adjusted from time to time due to experience studies) and actuarial value of assets based on the same method as employed for the retirement benefit valuation. The actuarial value of assets for the medical contribution rate valuation utilized book value prior to the 1996 valuation, and a 5-year market to book value average from 1996 through the 2000 valuation. The current asset valuation method was employed effective with the 2001 valuation.

The amount of the administrative expense was based on the budgeted amount for the twelve months following the date of the valuation as allocated between Hazardous position and Non-Hazardous position employees.

## Actuarial Assumptions

Since the actuarial valuation involves estimates of benefits payable in the future, it is necessary that assumptions be made as to the interest earnings, rates of mortality, withdrawal, retirement, and disability, and the rate at which salaries will increase. In addition, an assumption must be made relative to increases in medical insurance rates in order to value the liability for the medical insurance benefit.

It is desirable that the actuarial assumptions be reviewed periodically to see whether past experience and probable future experience justifies the continued use of these actuarial assumptions. Such a study was performed subsequent to the 2000 actuarial valuation and new actuarial assumptions were adopted by the Board for use in the 2001 and subsequent actuarial valuations, until such time as another experience study is performed. This valuation reflects assumptions based on the 2000 experience study. Actuarial assumptions used for hazardous position employees are similar to actuarial assumptions adopted for the State Police Retirement System (with the exception of the rate of retirement). The actuarial assumptions as used in this valuation are described later in this section.

## Actuarial Value of Assets

The actuarial value of assets is determined in the following manner for the Retirement Fund and Insurance Fund:

1. Develop expected assets by projecting valuation assets from the prior valuation using the assumed valuation interest rate from the prior valuation and actual cash flows for the 12 months ending on the current valuation date.
2. The current year investment gain/loss shall be determined as the difference between actual market value as of the current valuation date and expected assets as computed in (1), further adjusted for any amount of investment gain/loss from prior years not yet recognized as of the current valuation date.
3. The amount of investment gain/loss for the current year shall be reflected equally over the current year and the following 4 years.
4. Valuation assets will be equal to expected assets from (1) plus/minus the amount of investment gain/loss from the current and prior 4 years to be recognized in the current year.
5. The starting point for this method shall be the actuarial value of assets as computed in the 2000 valuation under the prior asset valuation method then in effect. Only investment gains/losses occurring after June 30, 2000 shall be recognized and amortized under this method.

The following table shows the derivation of valuation assets for the Retirement Fund and the Insurance Fund as of the current valuation:

|  | RETIREMENT FUND |  | INSURANCE FUND |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Non <br> Hazardous | Hazardous | Non <br> Hazardous | Hazardous |
| June 30, 2000 Valuation Assets | 5,284,033,534 | 1,445,542,794 | 319,642,694 | 168,659,912 |
| Cash Flows |  |  |  |  |
| > Employer Contributions | 48,860,438 | 20,737,235 | 62,292,385 | 32,149,432 |
| > Member Contributions | 99,525,931 | 29,155,004 |  |  |
| > Retirement Benefits | 170,256,139 | 56,519,865 |  |  |
| > Net Refunds | 8,245,737 | 1,285,134 |  |  |
| > Insurance Premiums |  |  | 27,523,966 | 11,511,058 |
| > Administrative Expenses | 6,174,091 | 512,265 | 244,142 | 108,621 |
| > Investment Manager Fees | 1,654,941 | 464,491 | 28,832 | 15,314 |
| Valuation Interest Assumption | 8.25\% | 8.25\% | 8.25\% | 8.25\% |
| Expected Return on Valuation Assets |  |  |  |  |
| Reflecting Actual Cash Flows * | 434,367,554 | 118,890,588 | 27,793,459 | 14,760,663 |
| Expected Valuation Assets | 5,680,456,549 | 1,555,543,866 | 381,931,598 | 203,935,014 |
| Actual Market Value of Assets | 4,397,346,547 | 1,211,154,618 | 331,066,746 | 173,636,191 |
| Investment Gain/(Loss) | (1,283,110,002) | (344,389,248) | $(50,864,852)$ | $(30,298,823)$ |
| Amortization Amounts From Prior Valuations |  |  |  |  |
|  |  |  |  |  |
| > Valuation Year-1 |  |  |  |  |
| >> Initial Amount | N/A | N/A | N/A | N/A |
| >> Current Valuation Amount | N/A | N/A | N/A | N/A |
| >> Amortization | N/A | N/A | N/A | N/A |
| > Valuation Year - 2 |  |  |  |  |
| >> Initial Amount | N/A | N/A | N/A | N/A |
| >> Current Valuation Amount | N/A | N/A | N/A | N/A |
| >> Amortization | N/A | N/A | N/A | N/A |
| > Valuation Year - 3 |  |  |  |  |
| >> Initial Amount | N/A | N/A | N/A | N/A |
| >> Current Valuation Amount | N/A | N/A | N/A | N/A |
| >> Amortization | N/A | N/A | N/A | N/A |
| > Valuation Year - 4 |  |  |  |  |
| >> Initial Amount | N/A | N/A | N/A | N/A |
| >> Current Valuation Amount | N/A | N/A | N/A | N/A |
| >> Amortization | N/A | N/A | N/A | N/A |
| Unamortized Amount of Gain/(Loss) |  |  |  |  |
| From Prior Valuations | 0 | 0 | 0 | 0 |
| Investment Gain/(Loss) to be Amortized from Current Valuation Date |  |  |  |  |
|  |  |  |  |  |
| > Amortization | $(256,622,000)$ | $(68,877,850)$ | $(10,172,970)$ | $(6,059,765)$ |
| June 30, 2001 Valuation Assets |  |  |  |  |
| > Expected Assets | 5,680,456,549 | 1,555,543,866 | 381,931,598 | 203,935,014 |
| > Amortization Amounts | (256,622,000) | $(68,877,850)$ | (10,172,970) | $(6,059,765)$ |
| $>$ Valuation Assets | 5,423,834,549 | 1,486,666,016 | 371,758,628 | 197,875,249 |

[^0]
## A. STATEMENT OF ACTUARIAL ASSUMPTIONS

(1) Mortality:
(a) Active \& retired lives
(b) Disabled lives
(2) Disablement
(3) Termination of employment \#
(4) Retirement \#

- 1983 Group Annuity Mortality Table, plus a pre-retirement duty death rate of .0005 per year for hazardous duty employees.
- Social Security Administration Disability Mortality Rates - Actuarial Study No. 75 (current rates used by PBGC for disabled lives receiving Social Security).
- Graduated rates based on 2000 experience study (no change from 1995 experience study).
- Graduated select (non-hazardous only) and ultimate rates based on 2000 experience study.
- Non-Hazardous:

| Age | Retirement Rate |
| :---: | :---: |
|  |  |
| $55-57$ | .04 |
| $58-59$ | .05 |
| $60-61$ | .06 |
| 62 | .25 |
| $63-64$ | .10 |
| 65 | .50 |
| $66-67$ | .20 |
| 68 | .25 |
| 69 | .40 |
| 70 and Over | 1.00 |

At age 55-64 in lieu of the age related rate, $25 \%$ are assumed to retire as soon as eligible for unreduced benefits.

Hazardous: Assumed that $60 \%$ will retire as soon as eligible for unreduced benefits and balance will continue to age 55 .
(5) Marital status
(a) Percentage married $\quad-100 \%$.
(b) Age difference
(6) Dependent children
(7) Investment return
(8) Compensation progression \#
(9) Underlying Inflation Rate
(10) Retiree Medical Insurance \#

- Males are assumed to be 3 years older than their spouses.
- For hazardous position employees under duty related death benefits, it is assumed that the employee is survived by 2 dependent children each age 6 .
- $8.25 \%$ per year, net of investment related expenses, compounded annually.
- 1st year: $12.00 \%$

2nd year: $10.00 \%$
3rd year: $8.00 \%$
Thereafter: $6.50 \%$, compounded annually.

- $3.5 \%$ per year; reflected in investment return and compensation progression assumptions.
- It was assumed that future retirees would select medical coverage in the same proportion that current retirees have selected coverage. Monthly contribution rates were assumed to be as follows:

| Plan Type | Rate in Effect <br> on Valuation Date |
| :--- | :---: |
| Single | $\$ 252.46$ |
| - Region 1 | 293.46 |
| - Region 2 | 273.52 |
| - Region 3 | 234.00 |
| - All Others | 577.00 |
| Family | 350.00 |
| Parent Plus | 525.00 |
| Couple | 96.41 |
| Medicare* | 229.03 |

Region 1: Boyd, Carter, Elliott, Greenup
Region 2: Christian, Daviess, Hancock, Henderson, Hopkins, McLean, Muhlenberg, Ohio, Todd, Trigg, Union, Webster

Region 3: Harlan, Lewis, Mason, Perry, Roberston

| Carrier | Medicare Rate |  | Contracts in Force |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Low | High | Low | High |
|  | Option | Option | Option | Option |
| Anthem BC/BS | 101.26 | 231.35 | 2,839 | 17,314 |
| Bankers Life | 91.78 | 216.94 | 272 | 156 |
| Option 2000 | 83.05 | 216.51 | 504 | 1,767 |
| Humana | 85.00 | 247.00 | 490 | 1,729 |
| Humana |  |  |  |  |
| Gold Plus | 85.00 | 136.00 | 17 | 507 |

*Weighted average of current rates available from different carriers; weighting based on number of contracts in force.

In determining the target Entry Age Funding rate in valuations beginning with 1996, it was assumed that medical contribution rates would grow at the following annual levels:
Years Medical Increase

| $2001-2002$ | $12 \%$ |
| :--- | :---: |
| $2003-2005$ | $10 \%$ |
| $2006-2010$ | $9 \%$ |
| $2011-2015$ | $8 \%$ |
| $2016-2020$ | $7.5 \%$ |
| Thereafter | $7 \%$ |

(11) Missing data

- For those active members with incomplete data, the following assumptions were made:
. If reported salary was zero or blank, then monthly salary was assumed to be \$887.58
. If reported age was blank, then assume current age equal to age 18 plus years of service reported
(12) Members with Multiple Service Records
- For active members with service in more than one system, the liability has been valued as
follows:
- Service under all systems is aggregated for purposes of determining benefit eligibility.
. Future service is projected only under the system in which the member is currently active.
. The actual benefit under each system is determined based only on service (past and projected future service, if applicable) under that system.

The liability is determined under each system based on the actuarial assumptions used for the system in which the member is currently active. This liability is then included in the valuation of the system in which the service has been earned (or is projected to be earned).

For inactive members with service in more than one system, the benefit attributable to the service under each system is determined, and the liability for that benefit is then included in the valuation of the system in which the service was earned.
\# Changes in assumptions from those used in 2000 valuation.
B. SAMPLE RATES FOR NON-HAZARDOUS POSITION EMPLOYEES*
(1) Annual Rates of Mortality:

| Age | Active Mortality |  | Disabled Mortality |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Males | Females | Males | Females |
| 25 | 0.05\% | 0.03\% | 4.83\% | 2.63\% |
| 30 | 0.06\% | 0.03\% | 3.62\% | 2.37\% |
| 40 | 0.12\% | 0.07\% | 2.82\% | 2.09\% |
| 50 | 0.40\% | 0.16\% | 3.83\% | 2.57\% |
| 55 | 0.61\% | 0.25\% | 4.82\% | 2.95\% |
| 60 | 0.92\% | 0.42\% | 6.03\% | 3.31\% |

(2) Annual Rates of Decrement:

| Age | $\underline{\text { Disablement }}$ | $\underline{\text { Ultimate Termination }}$ |
| :--- | :---: | :---: |
|  |  |  |
| 25 | $0.033 \%$ | $2.40 \%$ |
| 30 | $0.039 \%$ | $2.40 \%$ |
| 40 | $0.105 \%$ | $2.00 \%$ |
| 50 | $0.423 \%$ | $1.60 \%$ |
| 55 | $0.794 \%$ | $1.20 \%$ |
| 60 | $1.395 \%$ | $0.20 \%$ |

(3) Select Rates of Termination:

Years of Service Select Termination

| 1 | $35.0 \%$ |
| :--- | :---: |
| 2 | $10.0 \%$ |
| 3 | $7.0 \%$ |
| 4 | $5.0 \%$ |
| 5 | $4.0 \%$ |

(4) Compensation Progression (after 1st 3 years):

| Age | Rate of <br> Annual Increase | Compensation at Normal <br> Retirement as Percentage <br> Of Current Annual Compensation |
| :--- | :---: | :---: |
|  | $6.50 \%$ | $1,241.6 \%$ |
| 30 | $6.50 \%$ | $906.2 \%$ |
| 40 | $6.50 \%$ | $482.8 \%$ |
| 50 | $6.50 \%$ | $257.2 \%$ |
| 55 | $6.50 \%$ | $187.7 \%$ |
| 60 | $6.50 \%$ | $137.0 \%$ |

*Sample rates for hazardous position employees are included in the State Police Retirement System valuation.

## SECTION III

## RESULTS OF THE 2001 ACTUARIAL VALUATION

## Determination of Contribution Rate

The rate of contribution by the participating Agencies required to provide 30 year amortization of the Unfunded Actuarial Accrued Liability under the level-percentage-of-payroll method, the employer share of the annual Normal Cost, medical insurance and the administrative costs of the System is shown in Table I. The required contribution is expressed both in dollars and as a percentage of the estimated payroll of the participating Agencies as of June 30, 2001.

The actuarial methods applied to determine the Normal Cost for the year commencing July 1, 2001 are described in Section II. These costs are classified by type of benefit. The Normal Cost contribution rate of the participating Agencies is determined by reducing the total Normal Cost by the expected employee contributions. A breakdown of actuarial liabilities and costs between Hazardous and Non-Hazardous position employees appears in Table II for the Retirement Fund and Table IV for the Insurance Fund. A breakdown of the total Unfunded Actuarial Accrued Liability into the amortization amounts by year is shown in Table III for the Retirement Fund and Table V for the Insurance Fund. Table VI has been included to show an estimate of projected payouts from the funds over the next 10 years based on current plan provisions and actuarial assumptions.

## Actuarial Balance Sheet

Table VII is the actuarial balance sheet of the County Employees Retirement System as of June 30, 2001 for the Retirement Fund. Table VIII is the actuarial balance sheet for the Insurance Fund. The "actuarial balance sheet" displays the fundamental relationship between actual assets, future contributions, and future benefits. The asset side of the balance sheet is comprised of actual fund assets plus the actuarial present value of future contributions on behalf of current members. The actuarial present values of all projected benefit payments to present active and inactive members make up the balance sheet liabilities.

## Accountant's Information

Table IX contains additional information needed to comply with GASB disclosure requirements relative to the Retirement Fund.

Table X contains information needed to comply under GASB Statement No. 12 relative to the Insurance Fund.

| TABLEICOUNTYEMPLOYEES RETIREMENT SYSTEMRETIREMENTANDINSURANCEFUNDDETERMINATION OFCONTRIBUTIONRATE -JUNE 30, 2001 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| UNFUNDED ACTUARIAL ACCRUED LIABILITY - RETIREMENT FUND |  |  |  |  |
|  |  |  | Percent | * |
| Total Actuarial Accrued Liability Assets at Actuarial Value Unfunded Actuarial Accrued Liability | \$ | $\begin{gathered} \hline 4,900,142,654 \\ 6,910,500,565 \\ (2,010,357,911) \end{gathered}$ | $255.15 \%$ $359.83 \%$ $(104.68 \%)$ |  |
| Contribution - Payment on Unfunded Actuarial Accrued Liability | \$ | $(104,138,682)$ | (5.42\%) |  |
| NORMAL COST - RETIREMENT FUND |  |  |  |  |
| Retirement Benefits | \$ | 180,619,180 | 9.40\% |  |
| Disability Benefits |  | 20,085,235 | 1.05\% |  |
| W ithdrawal Benefits (Vested and Refund of Contributions) |  | $13,909,478$ | 0.72\% |  |
| Survivor Benefits |  | 10,969,310 | 0.57\% |  |
| Total Normal Cost | \$ | 225,583,203 | 11.74\% |  |
| Less: Employee Contributions |  | 103,767,361 | 5.40\% |  |
| Normal Cost - State | \$ | 121,815,842 | 6.34\% |  |
| TOTALANNUALEMPLOYER COST - RETIREMENT AND INSURANCEFUND |  |  |  |  |
| Non-Hazardous Duty Cost |  |  |  |  |
| Normal Cost | \$ | 93,608,939 | 5.86\% | ** |
| Payment on Unfunded Actuarial Accrued Liability |  | $(90,122,133)$ | (5.64\%) | ** |
| Administrative Expense |  | 7,042,404 | 0.44\% | ** |
| Subtotal - Retirement Fund |  |  |  |  |
| (Not Less Than Zero) | \$ | 10,529,210 | 0.66\% | ** |
| Group Hospital and Medical Insurance Premiums |  | 90,746,709 | 5.68\% | ** |
| Total Annual Cost | \$ | 101,275,919 | 6.34\% | ** |
| Hazardous Duty Cost |  |  |  |  |
| Normal Cost | \$ | 28,206,903 | 8.74\% |  |
| Payment on Unfunded Actuarial Accrued Liability |  | $(14,016,549)$ | (4.34\%) | *** |
| Administrative Expense |  | 887,232 |  | 0.27\% | *** |
| Subtotal - Retirement Fund |  |  |  |  |
| (Not Less Than Zero) <br> Group Hospital and Medical <br> Insurance Premiums <br> Total Annual Cost | \$ 15,077,586 |  | 4.67\% *** |  |
|  | 37,479,293 |  | 11.61\% *** |  |
|  | \$ |  |  | 52,556,879 | 16.28\% | *** |
| ```Based on estimated annual salaries * Total ** Non-Hazardous Position Employees *** Hazardous Position Employees``` | \$\$\$ | 1,920,472,384 |  |  |
|  |  |  |  |  |
|  |  | 1,597,653,320 |  |  |
|  |  | 322,819,064 |  |  |


| TABLE II <br> COUNTYEMPLOYEES RETIREMENT SYSTEM RETIREMENT FUND <br> OF ACTUARIAL LIABILITIES AND COSTS - |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Non-Hazardous <br> Position Employees |  | Hazardous <br> Position <br> Employees |  | Total |  |
| ACTUARIAL ACCRUED LIABILITY |  |  |  |  |  |  |
| Active Members |  |  |  |  |  |  |
| Retirement Benefits | \$ | 1,808,159,673 | \$ | 573,685,697 | \$ | $\begin{array}{r} 2,381,845,370 \\ 141,234,120 \end{array}$ |
| Disability Benefits |  | 127,412,953 |  | 13,821,167 |  |  |
| W ithdraw al Benefits (Vested and Refund of Contributions) |  | 58,946,158 |  | $7,533,279$ |  | $\begin{array}{r} 66,479,437 \\ 125,206,049 \end{array}$ |
| Survivor Benefits |  | 111,326,728 |  | 13,879,321 |  |  |
| Total - Actives | \$ | 2,105,845,512 | \$ | 608,919,464 | \$ | 2,714,764,976 |
| Inactive M embers |  |  |  |  |  |  |
| Retired M embers and | \$ |  | \$ |  | \$ | 2,132,934,304 |
| Beneficiaries |  | 1,551,618,750 |  | 581,315,554 |  |  |
| Vested Retirement |  | 33,500,336 |  | 2,824,220 |  | 36,324,556 |
| Vested Membership |  | 15,317,614 |  | 801,204 |  | 16,118,818 |
| Total - Inactives | \$ | 1,600,436,700 | \$ | 584,940,978 | \$ | 2,185,377,678 |
| Total Actuarial Accrued Liability | \$ | 3,706,282,212 | \$ | 1,193,860,442 | \$ | 4,900,142,654 |
| UNFUNDED ACTUARIAL ACCRUED LIABILITY |  |  |  |  |  |  |
| Total Actuarial Accrued Liability Less Actuarial Value of Assets Unfunded Actuarial Accrued Liability | \$ | 3,706,282,212 | \$ | 1,193,860,442 | \$ | $4,900,142,654$$6,910,500,565$ |
|  |  | 5,423,834,549 |  | 1,486,666,016 |  |  |
|  | \$ | (1,717,552,337) | \$ | $(292,805,574)$ | \$ | (2,010,357,911) |
| NORMALCOST |  |  |  |  |  |  |
| Retirement Benefits | \$ | 134,332,071 | \$ | 46,287,109 | \$ | $180,619,180$$20,085,235$ |
| Disability Benefits |  | 17,889,877 |  | 2,195,358 |  |  |
| Withdraw al Benefits (Vested and Refund of Contributions) |  | 11,206,818 |  | 2,702,660 |  | 13,909,478 |
| Survivor Benefits |  | 9,351,952 |  | 1,617,358 |  | 10,969,310 |
| Total Normal Cost | \$ | 172,780,718 | \$ | 52,802,485 | \$ | 225,583,203 |
| Less Employee Contributions |  | 79,171,779 |  | 24,595,582 |  | 103,767,361 |
| Total Normal Cost - State | \$ | 93,608,939 | \$ | 28,206,903 | \$ | 121,815,842 |

## TABLE III

COUNTYEMPLOYEES RETIREMENT SYSTEM
UNFUNDED ACTUARIAL ACCRUED LIABILITY - RETIREMENTFUND - JUNE 30,2001

| Date Established | Amount of Base on |  |  |  | Amortization Payment |  | Source of Base |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Date Established |  | Current Valuation Date |  |  |  |
| Non-Hazardous Position Employees |  |  |  |  |  |  |  |
| 6/30/1990 | \$ | 93,672,421 | \$ | 116,923,615 | \$ | 7,984,831 | Cumulative unfunded actuarial accrued liability set up as initial base under revised funding policy (30 year level percent of payroll method) |
| 6/30/1991 |  | 61,472,822 |  | 75,941,702 |  | 4,994,990 | Experience gains/losses for 7/1/1990 to 6/30/1991 |
| 6/30/1992 |  | $(125,111,651)$ |  | $(152,596,619)$ |  | $(9,690,496)$ | Experience gains/losses for 7/1/1991 to 6/30/1992; Asset valuation method change |
| 6/30/1993 |  | $(28,358,370)$ |  | $(34,073,827)$ |  | $(2,093,700)$ | Experience gains/losses for 7/1/1992 to 6/30/1993 |
| 6/30/1994 |  | 59,026,195 |  | 69,727,865 |  | 4,153,968 | Experience gains/losses for 7/1/1993 to 6/30/1994; Retiree COLA's |
| 6/30/1995 |  | $(35,766,009)$ |  | $(41,462,920)$ |  | $(2,399,210)$ | Experience gains/losses for 7/1/1994 to 6/30/1995 |
| 6/30/1996 |  | $(188,502,047)$ |  | $(214,095,120)$ |  | $(12,052,913)$ | Experience gains/losses for 7/1/1995 to 6/30/1996; Revised actuarial assumptions; Correction of pension allocation for members in pay status with both non-hazardous and hazardous service in KERS |
| 6/30/1997 |  | $(200,122,489)$ |  | $(222,157,360)$ |  | $(12,186,664)$ | Experience gains/losses for 7/1/1996 to 6/30/1997; 2.8\% retiree COLA effective 8/1/1996 |
| 6/30/1998 |  | $(311,976,854)$ |  | $(338,026,376)$ |  | $(18,093,200)$ | Experience gains/losses for 7/1/1997 to 6/30/1998; Increase in death benefit from $\$ 2,500$ to $\$ 5,000 ; 3.0 \%$ retiree COLA effective 7/1/1997 |
| 6/30/1999 |  | $(379,088,077)$ |  | $(400,376,132)$ |  | $(20,938,471)$ | Experience gains/losses for 7/1/1998 to 6/30/1999; 2.3\% retiree COLA effective 7/1/1998 |
| 6/30/2000 |  | $(804,685,873)$ |  | $(827,432,598)$ |  | $(42,329,797)$ | Experience gains/losses for 7/1/1999 to 6/30/2000; 1.6\% retiree COLA effective 7/1/1999 |
| 6/30/2001 |  | 250,075,433 |  | 250,075,433 |  | 12,528,529 | Experience gains/losses for 7/1/2000 to 6/30/2001; 2.2\% retiree COLA effective 7/1/2000; 3-year average earnings window |
| Total | \$ | $(1,609,364,499)$ | \$ | $(1,717,552,337)$ | \$ | $(90,122,133)$ |  |

## TABLE III (Continued)

COUNTY EMPLOYEES RETIREMENT SYSTEM
UNFUNDED ACTUARIAL ACCRUED LIABILITY - RETIREMENT FUND - JUNE 30,2001

|  | Amount of Base on |  | Amortization Payment | Source of Base |
| :---: | :---: | :---: | :---: | :---: |
| Date Established | Date Established | Current Valuation Date |  |  |
| Hazardous Position Employees |  |  |  |  |
| 6/30/1990 | \$ 68,584,978 | \$ 85,609,017 | \$ 5,846,325 | Cumulative unfunded actuarial accrued liability set up as initial base under revised funding policy ( 30 year level percent of payroll method) |
| 6/30/1991 | 29,934,803 | 36,980,569 | 2,432,360 | Experience gains/losses for 7/1/1990 to 6/30/1991 |
| 6/30/1992 | $(12,941,304)$ | $(15,784,295)$ | $(1,002,366)$ | Experience gains/losses for 7/1/1991 to 6/30/1992; Asset valuation method change |
| 6/30/1993 | (7,291,213) | (8,760,711) | $(538,311)$ | Experience gains/losses for 7/1/1992 to 6/30/1993 |
| 6/30/1994 | 1,854,577 | 2,190,820 | 130,516 | Experience gains/losses for 7/1/1993 to 6/30/1994; Retiree COLA's |
| 6/30/1995 | 24,831,672 | 28,786,931 | 1,665,727 | Experience gains/losses for 7/1/1994 to 6/30/1995 |
| 6/30/1996 | $(65,565,268)$ | $(74,467,116)$ | $(4,192,275)$ | Experience gains/losses for 7/1/1995 to 6/30/1996; Revised actuarial assumptions; Correction of pension allocation for members in pay status with both non-hazardous and hazardous service in KERS |
| 6/30/1997 | $(62,908,989)$ | $(69,835,705)$ | $(3,830,907)$ | Experience gains/losses for 7/1/1996 to 6/30/1997; 2.8\% retiree COLA effective 8/1/1996 |
| 6/30/1998 | $(50,329,820)$ | $(54,532,272)$ | $(2,918,894)$ | Experience gains/losses for 7/1/1997 to 6/30/1998; Revised average salary definition from 5 years to 3 years; Increase in death benefit from $\$ 2,500$ to $\$ 5,000 ; 3.0 \%$ retiree COLA effective 7/1/1997 |
| 6/30/1999 | $(97,060,446)$ | $(102,510,969)$ | $(5,361,016)$ | Experience gains/losses for 7/1/1998 to 6/30/1999; 2.3\% retiree COLA effective 7/1/1998 |
| 6/30/2000 | $(194,399,700)$ | $(199,894,958)$ | $(10,226,226)$ | Experience gains/losses for 7/1/1999 to 6/30/2000; 1.6\% retiree COLA effective 7/1/1999 |
| 6/30/2001 | 79,413,115 | 79,413,115 | 3,978,518 | Experience gains/losses for 7/1/2000 to 6/30/2001; 2.2\% retiree COLA effective 7/1/2000 |
| Total | \$ (285,877,595) | \$ $(292,805,574)$ | \$ (14,016,549) |  |



TABLE V
COUNTYEMPLOYEES RETIREMENT SYSTEM
UNFUNDED ACTUARIAL ACCRUED LIABILITY - INSURANCE FUND - JUNE 30, 2001

| Date <br> Established | Amount of Base on |  |  |  |  | Amortization Payment | Source of Base |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Date Established |  | Current Valuation Date |  |  |  |
| Non-Hazardous Position Employees |  |  |  |  |  |  |  |
| 6/30/1996 | \$ | 901,011,537 | \$ | 1,023,342,585 | \$ | 57,611,118 | Cumulative unfunded actuarial accrued liability set up as initial base under revised funding policy ( 30 year level percent of payroll method) |
| 6/30/1997 |  | 29,886,573 |  | 33,177,291 |  | 1,819,973 | Experience gains/losses for 7/1/1996 to 6/30/1997; Impact of actual insurance fund contributions vs. full entry age amounts |
| 6/30/1998 |  | 62,468,342 |  | 67,684,340 |  | 3,622,872 | Experience gains/losses for 7/1/1997 to 6/30/1998; Impact of actual insurance fund contributions vs. full entry age amounts |
| 6/30/1999 |  | (21,106,379) |  | $(22,291,628)$ |  | $(1,165,785)$ | Experience gains/losses for 7/1/1998 to 6/30/1999; Impact of actual insurance fund contributions vs. full entry age amounts |
| 6/30/2000 |  | 70,199,744 |  | 72,184,139 |  | 3,692,796 | Experience gains/losses for 7/1/1999 to 6/30/2000; Impact of actual insurance fund contributions vs. full entry age amounts |
| 6/30/2001 |  | 247,855,413 |  | 247,855,413 |  | 12,417,308 | Experience gains/losses for 7/1/2000 to 6/30/2001; Impact of actual insurance fund contributions vs. full entry age amounts |
| Total | \$ | 1,290,315,230 | \$ | 1,421,952,140 | \$ | 77,998,282 |  |
| Hazardous Position Employees |  |  |  |  |  |  |  |
| 6/30/1996 | \$ | 318,111,968 | \$ | 361,302,282 | \$ | 20,340,235 | Cumulative unfunded actuarial accrued liability set up as initial base under revised funding policy ( 30 year level percent of payroll method) |
| 6/30/1997 |  | 53,367,623 |  | 59,243,767 |  | 3,249,876 | Experience gains/losses for 7/1/1996 to 6/30/1997; Impact of actual insurance fund contributions vs. full entry age amounts |
| 6/30/1998 |  | 15,379,222 |  | 16,663,359 |  | 891,923 | Experience gains/losses for 7/1/1997 to 6/30/1998; Impact of actual insurance fund contributions vs. full entry age amounts |
| 6/30/1999 |  | (13,162,362) |  | $(13,901,507)$ |  | $(727,007)$ | Experience gains/losses for 7/1/1998 to 6/30/1999; Impact of actual insurance fund contributions vs. full entry age amounts |
| 6/30/2000 |  | 17,607,673 |  | 18,105,404 |  | 926,236 | Experience gains/losses for 7/1/1999 to 6/30/2000; Impact of actual insurance fund contributions vs. full entry age amounts |
| 6/30/2001 |  | 82,316,738 |  | 82,316,738 |  | 4,123,986 | Experience gains/losses for 7/1/2000 to 6/30/2001; Impact of actual insurance fund contributions vs. full entry age amounts |
| Total | \$ | 473,620,862 | \$ | 523,730,043 | \$ | 28,805,249 |  |

TABLE VI
COUNTYEMPLOYEES RETIREMENT SYSTEM BENEFIT PAYMENT PROJECTIONS

RETIREMENT FUND PAYMENT PROJECTIONS

| Plan Year | Non-Hazardous <br> Position <br> Employees | Hazardous <br> Position <br> Employees | Total |
| :---: | :---: | :---: | :---: |
| $7 / 1 / 2001$ to $6 / 30 / 2002$ | $191,701,000$ | $63,816,000$ | $255,517,000$ |
| $7 / 1 / 2002$ to $6 / 30 / 2003$ | $204,575,000$ | $67,846,000$ | $272,421,000$ |
| $7 / 1 / 2003$ to $6 / 30 / 2004$ | $218,510,000$ | $72,483,000$ | $290,993,000$ |
| $7 / 1 / 2004$ to $6 / 30 / 2005$ | $234,490,000$ | $78,343,000$ | $312,833,000$ |
| $7 / 1 / 2005$ to $6 / 30 / 2006$ | $253,500,000$ | $85,906,000$ | $339,406,000$ |
| $7 / 1 / 2006$ to $6 / 30 / 2007$ | $275,066,000$ | $95,413,000$ | $370,479,000$ |
| $7 / 1 / 2007$ to $6 / 30 / 2008$ | $298,795,000$ | $105,373,000$ | $404,168,000$ |
| $7 / 1 / 2008$ to $6 / 30 / 2009$ | $325,005,000$ | $117,618,000$ | $442,623,000$ |
| $7 / 1 / 2009$ to $6 / 30 / 2010$ | $353,349,000$ | $130,845,000$ | $484,194,000$ |
| $7 / 1 / 2010$ to $6 / 30 / 2011$ | $384,366,000$ | $144,846,000$ | $529,212,000$ |

INSURANCE FUND PAYMENT PROJECTIONS

| Plan Year | Non-Hazardous <br> Position <br> Employees | Hazardous <br> Position <br> Employees | Total |
| :---: | ---: | ---: | ---: |
| $7 / 1 / 2001$ to $6 / 30 / 2002$ | $36,579,000$ | $15,593,000$ | $52,172,000$ |
| $7 / 1 / 2002$ to $6 / 30 / 2003$ | $42,564,000$ | $17,669,000$ | $60,233,000$ |
| $7 / 1 / 2003$ to $6 / 30 / 2004$ | $49,193,000$ | $19,991,000$ | $69,184,000$ |
| $7 / 1 / 2004$ to $6 / 30 / 2005$ | $56,555,000$ | $22,599,000$ | $79,154,000$ |
| $7 / 1 / 2005$ to $6 / 30 / 2006$ | $65,210,000$ | $25,882,000$ | $91,092,000$ |
| $7 / 1 / 2006$ to $6 / 30 / 2007$ | $74,785,000$ | $29,610,000$ | $104,395,000$ |
| $7 / 1 / 2007$ to $6 / 30 / 2008$ | $85,322,000$ | $33,579,000$ | $118,901,000$ |
| $7 / 1 / 2008$ to $6 / 30 / 2009$ | $97,516,000$ | $38,506,000$ | $136,022,000$ |
| $7 / 1 / 2009$ to $6 / 30 / 2010$ | $111,674,000$ | $44,274,000$ | $155,948,000$ |
| $7 / 1 / 2010$ to $6 / 30 / 2011$ | $127,851,000$ | $50,734,000$ | $178,585,000$ |

Projected benefit payments reflect future actual experience consistent with actuarial assumptions used in current annual valuation. Future cost-of-living adjustments of 3\% per annum have been assumed in retirement benefit amounts. Insurance fund payments reflect future medical inflation rates consistent with the valuation assumption. There has not been any assumption made as to the number of future new entrants who may enter the plan. Nor has any provision been made for any change in the basic benefit structure of the plan beyond changes already legislated.

| TABLEVIICOUNTYEMPLOYEES RETIREMENT SYSTEMRETIREMENTFUNDACTUARIAL BALANCESHEET - JUNE 30, 2001 |  |  |  |
| :---: | :---: | :---: | :---: |
| ACTUARIAL ASSETS |  |  |  |
| Fund Assets at Actuarial Value (Plus Refunds and Expenses Payable) * |  | \$ | 6,910,500,565 |
| Actuarial Present Value of Future M ember Contributions |  |  | 1,198,151,209 |
| Actuarial Present Value of Future Employer Contributions <br> For Normal Costs <br> For Unfunded Actuarial Accrued Liability Total | $\begin{array}{ll} \$ & 1,314,803,154 \\ & (2,010,357,911) \end{array}$ | \$ | (695,554,757) |
| Total Actuarial Assets |  | \$ | 7,413,097,017 |
| ACTUARIAL LIABILITIES |  |  |  |
| Actuarial Present Value of Future Benefits   <br> Inactive M embers:   <br> Retired M embers and Beneficiaries $\$$ $2,132,934,304$ <br> Vested Retirement $36,324,556$  <br> Vested Membership $16,118,818$  <br> Total - Inactive  $\$$ |  |  |  |
| Actuarial Present Value of Future Benefits <br> Active Members: <br> Retirement Benefits <br> Disability Benefits <br> Withdrawal Benefits (Vested and <br> Refund of Contributions) <br> Survivor Benefits <br> Total - Active | \$$4,391,167,713$ <br> $356,409,233$ <br>  <br>  <br> $234,476,889$ <br> $245,665,504$ | \$ | 5,227,719,339 |
| Refunds and Expenses Payable |  | \$ | 0 |
| Total Actuarial Liabilities |  | \$ | 7,413,097,017 |
| Notes |  |  |  |
| * Values as of June 30, 2001 <br> M arket value of assets: <br> Actuarial value of assets: <br> M ember's Contribution Account: | Non-Hazardous Hazardous Total | \$ \$ \$ \$ \$ | $\begin{array}{r} 4,397,346,547 \\ 1,211,154,618 \\ 5,608,501,165 \\ 6,910,500,565 \\ 855,815,124 \end{array}$ |
| ** Present value of accrued benefit deferred to normal retirement date. |  |  |  |


| TABLE VIIICOUNTYEMPLOYEESRETIREMENT SYSTEMINSURANCEFUNDACTUARIAL BALANCESHEET - JUNE 30, 2001 |  |  |  |
| :---: | :---: | :---: | :---: |
| ACTUARIAL ASSETS |  |  |  |
| Fund Assets at Actuarial Value (Plus Refunds and Expenses Payable) * |  | \$ | 569,633,878 |
| Actuarial Present Value of Future Member Contributions (Note: All Future Member Contributions Credited Against Retirement Fund) |  |  | 0 |
| Actuarial Present Value of Future Employer Contributions <br> For Normal Costs <br> For Unfunded Actuarial Accrued Liability Total | $\begin{aligned} & \$ \quad 2,128,671,358 \\ & 1,945,682,182 \end{aligned}$ | \$ | 4,074,353,540 |
| Total Actuarial Assets |  | \$ | 4,643,987,418 |
| ACTUARIAL LIAB ILITIES |  |  |  |
| Actuarial Present Value of Future Benefits Inactive M embers: <br> Retired Members and Beneficiaries <br> Vested Retirement <br> Vested Membership <br> Total - Inactive | $\begin{array}{r} \text { \$ } \\ \\ \\ 61,940,534,141 \\ 0 \end{array}$ | \$ | 892,475,005 |
| Actuarial Present Value of Future Benefits Active Members: |  | \$ | 3,751,512,413 |
| Refunds and Expenses Payable |  | \$ | 0 |
| Total Actuarial Liabilities |  | \$ | 4,643,987,418 |
| Notes |  |  |  |
| * Values as of June 30, 2001 M arket value of assets: <br> Actuarial value of assets: | Non-Hazardous Hazardous Total | \$ | $331,066,746$ $173,636,191$ $504,702,937$ $569,633,878$ |



## TABLE X

## COUNTY EMPLOYEES RETIREMENT SYSTEM

ACCOUNTANT'S INFORMATION -INSURANCEFUND - JUNE 30, 2001
INFORMATION REQUIRED UNDER GASB STATEMENT NO. 12

|  | Non-Hazardous Position Employees | Hazardous Position Employees | Total |
| :---: | :---: | :---: | :---: |
| NUMBER OF MEMBERS |  |  |  |
| Contracts in Force - Retirees and Dependents |  |  |  |
| (1) Single; - $100 \%$ Paid | 2,528 | 782 | 3,310 |
| Pre-M edicare | 468 | 38 | 506 |
|  | 444 | 35 | 479 |
|  | 249 | 14 | 263 |
|  | 526 | 0 | 526 |
| (2) Family; - $100 \%$ Paid | 154 | 499 | 653 |
| Pre-M edicare | 9 | 14 | 23 |
|  | 11 | 10 | 21 |
|  | 8 | 5 | 13 |
|  | 3 | 0 | 3 |
| (3) Parent +; - 100\% Paid | 138 | 177 | 315 |
| Pre-M edicare | 8 | 16 | 24 |
|  | 2 | 7 | 9 |
|  | 6 | 2 | 8 |
|  | 50 | 0 | 50 |
| (4) Couple +; - $\quad 100 \%$ Paid | 463 | 717 | 1,180 |
| Pre-M edicare | 54 | 11 | 65 |
|  | 59 | 10 | 69 |
|  | 27 | 1 | 28 |
|  | 3 | 0 | 3 |
| (5) Medicare Regular | 945 | 19 | 964 |
|  | 0 | 0 | 0 |
|  | 0 | 0 | 0 |
|  | 717 | 13 | 730 |
|  | 550 | 0 | 550 |
| (6) Medicare High - 100\% Paid | 3,382 | 559 | 3,941 |
| Option - 75\% Paid | 1,626 | 65 | 1,691 |
| 50\% Paid | 1,736 | 46 | 1,782 |
| 25\% Paid | 967 | 21 | 988 |
| 0\% Paid | 1,263 | 3 | 1,266 |
| Vested Retirements | 4,080 | 148 | 4,228 |
| Vested M embership | 24,276 | 462 | 24,738 |
| Active Members | 78,773 | 8,586 | 87,359 |
|  |  |  |  |
| UNFUNDED MEDICAL BENEFIT OBLIGATION |  |  |  |
| M edical Benefit Obligation |  |  |  |
| Retirees, Beneficiaries and |  |  |  |
| Vested Terminated M embers | \$ 575,836,839 | \$ 316,638,166 | \$ 892,475,005 |
| Active Members | 1,217,873,929 | 404,967,126 | 1,622,841,055 |
| Total M edical Benefit Obligation | \$ 1,793,710,768 | \$ 721,605,292 | \$ 2,515,316,060 |
| Net Assets at Actuarial Value | \$ 371,758,628 | \$ 197,875,249 | \$ 569,633,878 |
| Unfunded Medical Benefit Obligation |  | \$ 523,730,043 | \$ 1,945,682,182 |
| NOTE: M edical Benefit Obligation based on Entry Age Normal Actuarial Cost Method |  |  |  |

## SECTION IV

## COMMENTS AND CERTIFICATION

## Comments

For the Retirement Fund, the total Actuarial Accrued Liability has increased from $\$ 4,453,154,831$ on June 30, 2000 to $\$ 4,900,142,654$ on June 30, 2001. The Unfunded Actuarial Accrued Liability has increased from $\$(2,276,421,497)$ to $\$(2,010,357,911)$. Total actuarial value of assets as of June 30, 2001 was equal to $\$ 6,910,500,565$. The Unfunded Actuarial Accrued Liability increased from ( $121.95 \%$ ) to ( $104.68 \%$ ) as a percentage of annual payroll and increased from ( $51.1 \%$ ) to ( $41.0 \%$ ) as a percentage of the Actuarial Accrued Liability in the year ended June 30, 2001.

For the Insurance Fund, the total Actuarial Accrued Liability has increased from $\$ 2,066,652,957$ on June 30,2000 to $\$ 2,515,316,060$ on June 30, 2001. The Unfunded Actuarial Accrued Liability has increased from $\$ 1,578,352,351$ to $\$ 1,945,682,182$. Total actuarial value of assets as of June 30, 2001 was equal to $\$ 569,633,878$. The Unfunded Actuarial Accrued Liability increased from $76.4 \%$ to $77.4 \%$ as a percentage of the Actuarial Accrued Liability in the year ended June 30, 2001.

The change in contribution rate between the 2000 and 2001 valuations is a function of actual plan experience since the last valuation. A formal gain and loss analysis would identify the portion of the contribution rate change attributable to each element of plan experience and benefit change. However, undertaking such an analysis would be extremely time consuming and expensive. In lieu of the formal analysis, we have estimated the impact of the various components of gain and loss based on changes in statistical averages of each group. The following table shows the results of this computation:

|  | Non-Hazardous Position Employees | Hazardous Position Employees |
| :---: | :---: | :---: |
| June 30, 2000 Contribution Rate | 6.34\% | 16.28\% |
| Change in Payment Percentage Due to Covered Payroll Experience | (0.23\%) | 0.32\% |
| Investment Return Experience <br> > Prior to Asset Valuation Method Change <br> $>$ Impact of Asset Valuation Method Change | $\begin{aligned} & 0.04 \% \\ & 0.76 \% \end{aligned}$ | $\begin{aligned} & 0.15 \% \\ & 0.92 \% \end{aligned}$ |
| Salary Increase Experience | (0.66\%) | 0.02\% |
| Decrements Experience* | 0.47\% | (0.07\%) |
| Change in Insurance Fund Rate <br> > One-Year Temporary Funding Rate <br> $>$ Increase in Long Term Funding Rate | $\begin{gathered} (0.77 \%) \\ 0.31 \% \\ \hline \end{gathered}$ | $\begin{gathered} (2.16 \%) \\ 0.55 \% \\ \hline \end{gathered}$ |
| Change in Administrative Expense Rate | (0.11\%) | (0.17\%) |
| Retiree COLA Effective 7/1/2000 | 0.10\% | 0.19\% |
| Legislated Changes <br> > 3 Year Average Window for Nonhazardous | 0.09\% | 0.00\% |
| Change in Actuarial Assumptions | 0.00\% | 0.25\% |
| Reduction in Amount Available from Prior Year Retirement Fund Rate to Offset Current Year Increases | N/A | N/A |
| June 30, 2001 Contribution Rate | 6.34\% | 16.28\% |
| * Includes mortality, disability, termination of employment and retirement experience. |  |  |

The annual contribution rate required by the participating Agencies to provide the Normal Cost, 30 year amortization of the Unfunded Actuarial Accrued Liability under the level-percentage-ofpayroll method, and pay administrative expenses for Non-Hazardous position employees is $0.66 \%$. An additional $5.68 \%$ is required to fund medical insurance for retirees, bringing the required contribution up to $6.34 \%$. This is the same as the current $6.34 \%$ budgeted contribution rate. Therefore, it is our opinion that the contribution rate beginning July 1, 2002 should remain at the $6.34 \%$ level, and we so recommend.

The annual contribution rate required by the participating Agencies to provide the Normal Cost, 30 year amortization of the Unfunded Actuarial Accrued Liability under the level-percentage-ofpayroll method, and pay administrative expenses for Hazardous position employees is $4.67 \%$. An additional $11.61 \%$ is required to fund medical insurance for retirees, bringing the required contribution up to $16.28 \%$. This is the same as the current $16.28 \%$ budgeted contribution rate. Therefore, it is our opinion that the contribution rate beginning July 1, 2002 should be remain at the $16.28 \%$ level, and we so recommend.

The recommended contribution rates are based on current statutory benefits. The budgeted contribution rates will again be reviewed in the June 30, 2002 valuation.

The following table shows the total Actuarial Accrued Liability, the Unfunded Actuarial Accrued Liability, percent unfunded and the growth of the invested assets relative to retirement related benefits at selected intervals since the inception of the System.

| COUNTY EMPLOYEES RETIREMENT SYSTEM - RETIREMENT FUND |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| July 1 of Year Shown | Total Actuarial Accrued Liability | Unfunded Actuarial Accrued Liability | Percent Unfunded | Actuarial Value of Assets | Increase in Assets |
| 1960 | \$ 5,602,131 | \$ 4,737,680 | 84.6\% | \$ 864,451 | \$ 864,451 |
| 1965 | 12,510,487 | 6,897,273 | 55.1\% | 5,613,214 | 1,255,742 |
| 1971 | 40,305,948 | 16,885,927 | 41.9\% | 23,420,022* | 4,850,170 |
| 1975 | 85,322,085 | 24,467,454 | 28.7\% | 60,854,631* | 11,704,780 |
| 1976 | 128,824,236 | 50,089,614 | 38.9\% | 78,734,622* | 17,879,991 |
| 1977 | 152,900,347 | 52,474,756 | 34.3\% | 100,425,591* | 21,690,969 |
| 1978 | 175,194,867 | 50,394,913 | 28.8\% | 124,799,954* | 24,374,363 |
| 1979 | 213,834,377 | 60,742,472 | 28.4\% | 153,091,905* | 28,291,951 |
| 1980 | 266,018,621 | 75,787,680 | 28.5\% | 190,230,941* | 37,139,036 |
| 1981 | 260,872,162 | 27,101,917 | 10.4\% | 233,770,245 | 43,539,304 |
| 1982 | 306,087,531 | 20,552,642 | 6.7\% | 285,534,889 | 51,764,644 |
| 1983 | 340,705,763 | $(2,450,006)$ | (0.8\%) | 343,155,769 | 57,620,880 |
| 1984 | 421,336,269 | 15,148,838 | 3.6\% | 406,187,431 | 63,031,662 |
| 1985 | 463,618,532 | $(14,424,689)$ | (3.1\%) | 478,043,221 | 71,855,790 |
| 1986 | 535,948,094 | (67,867,706) | (12.7\%) | 603,815,800 | 125,772,579 |
| 1987 | 678,442,760 | $(49,287,967)$ | (7.3\%) | 727,730,727 | 123,914,927 |
| 1988 | 829,346,323 | (10,232,573) | (1.2\%) | 839,578,896 | 111,848,169 |
| 1989 | 1,113,868,548 | 35,815,913 | 3.2\% | 1,078,052,635 | 238,473,739 |
| 1990 | 1,432,323,666 | 162,257,399 | 11.3\% | 1,270,066,267 | 192,013,632 |
| 1991 | 1,654,338,706 | 258,111,701 | 15.6\% | 1,396,227,005 | 126,160,738 |
| 1992** | 1,861,978,403 | 126,939,495 | 6.8\% | 1,735,038,908 | 338,811,903 |
| 1993 | 2,079,930,047 | 94,249,338 | 4.5\% | 1,985,680,709 | 250,641,801 |
| 1994 | 2,330,344,241 | 156,989,469 | 6.7\% | 2,173,354,772 | 187,674,063 |
| 1995 | 2,603,575,921 | 149,447,861 | 5.7\% | 2,454,128,060 | 280,773,288 |
| 1996 | 2,778,316,473 | $(101,712,065)$ | (3.7\%) | 2,880,028,538 | 425,900,478 |
| 1997 | 3,144,928,093 | $(369,096,965)$ | (11.7\%) | 3,514,025,868 | 633,997,330 |
| 1998 | 3,529,912,902 | $(743,349,593)$ | (21.1\%) | 4,273,262,495 | 759,236,627 |
| 1999 | 3,955,132,659 | (1,241,746,262) | (31.4\%) | 5,196,878,921 | 923,616,426 |
| 2000 | 4,453,154,831 | $(2,276,421,497)$ | (51.1\%) | 6,729,576,328 | 1,532,697,407 |
| 2001*** | 4,900,142,654 | (2,010,357,911) | (41.0\%) | 6,910,500,565 | 180,924,237 |
| *Includes capitalized appreciation of investments. |  |  |  |  |  |
| **Change in asset valuation method effective in this valuation from book value to a five year average of market to book values. |  |  |  |  |  |
| ***Change in asset valuation method effective in this valuation to 5-year smoothing of investment gains/(losses). |  |  |  |  |  |

The following table shows the total Actuarial Accrued Liability, the Unfunded Actuarial Accrued Liability, percent unfunded and the growth of the invested assets relative to medical premium benefits since 1990.

| COUNTY EMPLOYEES RETIREMENT SYSTEM - INSURANCE FUND |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| July 1 of Year Shown | Total Actuarial Accrued Liability | Unfunded <br> Actuarial <br> Accrued <br> Liability | Percent <br> Unfunded | Actuarial Value of Assets | Increase in Assets |
| 1990 | \$ 700,151,838 | \$ 670,720,901 | 95.8\% | \$ 29,430,397 | \$ N/A |
| 1991 | 823,012,809 | 780,592,065 | 94.8\% | 42,420,744 | 12,989,807 |
| 1992 | 1,041,905,457 | 984,949,556 | 94.5\% | 56,955,901 | 14,535,157 |
| 1993 | 1,244,258,042 | 1,170,004,170 | 94.0\% | 74,253,872 | 17,297,971 |
| 1994 | 1,551,138,800 | 1,451,623,905 | 93.6\% | 99,514,895 | 25,261,023 |
| 1995 | 1,679,893,225 | 1,554,439,285 | 92.5\% | 125,453,940 | 25,939,045 |
| 1996** | 1,386,659,746 | 1,219,123,505 | 87.9\% | 167,536,241 | 42,082,301 |
| 1997 | 1,541,360,457 | 1,336,839,680 | 86.7\% | 204,520,777 | 36,984,536 |
| 1998 | 1,706,626,110 | 1,451,039,735 | 85.0\% | 255,586,375 | 51,065,598 |
| 1999 | 1,801,154,401 | 1,454,627,009 | 80.8\% | 346,527,392 | 90,941,017 |
| 2000 | 2,066,652,957 | 1,578,352,351 | 76.4\% | 488,300,606 | 141,773,214 |
| 2001*** | 2,515,316,060 | 1,954,682,182 | 77.4\% | 569,633,878 | 81,333,272 |
| **Change in asset valuation method effective in this valuation from book value to a five year average of market to book values. |  |  |  |  |  |
| ***Change in asset valuation method effective in this valuation to 5-year smoothing of investment gains/(losses). |  |  |  |  |  |

## Certification

On the basis of the actuarial assumptions given and the data furnished by the General Manager of the Counties Employees Retirement System, it is certified that the actuarial valuation has been made by the use of accepted actuarial principles and based on continuation of current funding polices adopted by the Board, that adequate provision is being made for the funding of future benefits.

We are available to answer any questions on the material contained in the report, or to provide explanations or further details as may be appropriate. The undersigned credentialed actuaries meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report.

Stephen A. Gagel, F.S.A

Edward W. Maynard, F.S.A.

## Date

William M. Mercer, Incorporated
462 South Fourth Avenue, Suite 1500
Louisville, Kentucky 40202-3431
(D) (502) 561-4500

## SECTION V

## STATISTICAL DATA

## AS OF

JUNE 30, 2001

EARNINGS BY AGE GROUPS

| AGEGROUP |  | MALE |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | COUNT | EARNINGS | AVERAGE | COUNT | EARNINGS | AVERAGE | COUNT | EARNINGS | AVERAGE |
| 0-19 | 1,866 | 27,288,499 | 14,624 | 102 | 1,238,508 | 12,142 | 1,968 | 28,527,007 | 14,495 |
| 20-24 | 3,556 | 58,604,719 | 16,481 | 1,241 | 17,837,510 | 14,373 | 4,797 | 76,442,229 | 15,935 |
| 25-29 | 1,985 | 43,041,614 | 21,683 | 2,562 | 42,206,188 | 16,474 | 4,547 | 85,247,802 | 18,748 |
| 30-34 | 2,551 | 64,203,714 | 25,168 | 4,372 | 70,177,649 | 16,052 | 6,923 | 134,381,362 | 19,411 |
| 35-39 | 3,281 | 87,788,161 | 26,757 | 6,764 | 107,387,677 | 15,876 | 10,045 | 195,175,837 | 19,430 |
| 40-44 | 4,016 | 114,847,326 | 28,597 | 8,507 | 144,882,140 | 17,031 | 12,523 | 259,729,466 | 20,740 |
| 45-49 | 4,055 | 120,508,734 | 29,719 | 8,492 | 154,008,749 | 18,136 | 12,547 | 274,517,482 | 21,879 |
| 50-54 | 3,734 | 111,879,383 | 29,962 | 7,234 | 135,350,770 | 18,710 | 10,968 | 247,230,152 | 22,541 |
| 55-59 | 2,623 | 72,154,065 | 27,508 | 4,960 | 90,918,846 | 18,330 | 7,583 | 163,072,911 | 21,505 |
| 60-64 | 1,784 | 44,966,786 | 25,206 | 2,681 | 46,970,534 | 17,520 | 4,465 | 91, 937, 320 | 20,591 |
| 65-69 | 734 | 14,745,264 | 20,089 | 865 | 13,187,100 | 15,245 | 1,599 | 27,932,364 | 17,469 |
| 70-74 | 308 | 5,632,963 | 18,289 | 280 | 4,090,188 | 14,608 | 588 | 9,723,151 | 16,536 |
| 75+ | 114 | 2,005,992 | 17,596 | 106 | 1,730,244 | 16,323 | 220 | 3,736,236 | 16,983 |
| TOTAL | 30,607 | 767,667,218 | 25,081 | 48,166 | 829,986,101 | 17,232 | 78,773 | 1,597,653,320 | 20,282 |

EARNINGS BY SERVICE GROUPS

| SERVICE GROUP | COUNT |  |  | COUNT | FEMALE | AVERAGE | COUNT | TO | AVERAGE |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | EARNINGS | AVERAGE |  | EARNINGS |  |  | EARNINGS |  |
| 0 | 2,378 | 42,464,564 | 17,857 | 2,017 | 30,641,688 | 15,192 | 4,395 | 73,106,252 | 16,634 |
| 1 | 4,562 | 82,953,610 | 18,184 | 6,248 | 80,749,006 | 12,924 | 10,810 | 163,702,616 | 15,144 |
| 2 | 3,531 | 71,141,865 | 20,148 | 5,284 | 74,704,876 | 14,138 | 8,815 | 145,846,741 | 16,545 |
| 3 | 2,862 | 63,226,010 | 22,092 | 4,302 | 63,358,737 | 14,728 | 7,164 | 126,584,747 | 17,670 |
| 4 | 1,954 | 44,705,712 | 22,879 | 3,255 | 49,674,408 | 15,261 | 5,209 | 94,380,120 | 18,119 |
| 0-4 | 15,287 | 304,491,761 | 19,918 | 21,106 | 299,128,715 | 14,173 | 36,393 | 603,620,475 | 16,586 |
| 5-9 | 6,159 | 160,403,627 | 26,044 | 12,713 | 210,660,322 | 16,570 | 18,872 | 371,063,949 | 19,662 |
| 10-14 | 4,272 | 127,975,905 | 29,957 | 7,641 | 150,810,606 | 19,737 | 11,913 | 278,786,511 | 23,402 |
| 15-19 | 2,437 | 78,982,387 | 32,410 | 3,527 | 80,574,283 | 22,845 | 5,964 | 159,556,670 | 26,753 |
| 20-24 | 1,540 | 55,128,799 | 35,798 | 2,166 | 54,589,939 | 25,203 | 3,706 | 109,718,738 | 29,606 |
| 25-29 | 714 | 30,676,284 | 42,964 | 792 | 25,434,060 | 32,114 | 1,506 | 56,110,344 | 37,258 |
| 30-34 | 154 | 7,762,632 | 50,407 | 175 | 6,524,856 | 37,285 | 329 | 14,287,488 | 43,427 |
| 35-39 | 38 | 1,756,092 | 46,213 | 30 | 1,319,928 | 43,998 | 68 | 3,076,020 | 45,236 |
| 40+ | 6 | 489,732 | 81,622 | 16 | 943,392 | 58,962 | 22 | 1,433,124 | 65,142 |
| TOTAL | 30,607 | 767,667,218 | 25,081 | 48,166 | 829,986,101 | 17,232 | 78,773 | 1,597,653,320 | 20,282 |

EARNINGS BY AGE GROUPS

| AGE |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| GROUP | COUNT | EARNINGS | AVERAGE | COUNT | EARNINGS | AVERAGE | COUNT | EARNINGS | AVERAGE |
| 0-19 | 126 | 3,055,596 | 24,251 | 3 | 53,652 | 17,884 | 129 | 3,109,248 | 24,103 |
| 20-24 | 410 | 11,564,976 | 28,207 | 29 | 684,660 | 23,609 | 439 | 12,249,636 | 27,903 |
| 25-29 | 1,229 | 38,964,324 | 31,704 | 135 | 4,089,444 | 30,292 | 1,364 | 43,053,768 | 31,564 |
| 30-34 | 1,614 | 58,353,991 | 36,155 | 194 | 6,419,964 | 33,093 | 1,808 | 64,773,955 | 35,826 |
| 35-39 | 1,495 | 59,492,510 | 39,794 | 175 | 6,066,444 | 34,665 | 1,670 | 65,558,954 | 39,257 |
| 40-44 | 1,106 | 45,638,995 | 41,265 | 144 | 5,532,854 | 38,423 | 1,250 | 51,171,849 | 40,937 |
| 45-49 | 848 | 38,273,220 | 45,134 | 111 | 3,989,623 | 35,943 | 959 | 42,262,843 | 44,070 |
| 50-54 | 494 | 22,540,891 | 45,629 | 72 | 2,723,628 | 37,828 | 566 | 25,264,519 | 44,637 |
| 55-59 | 230 | 9,721,860 | 42,269 | 41 | 1,230,924 | 30,023 | 271 | 10,952,784 | 40,416 |
| 60-64 | 86 | 3,119,148 | 36,269 | 10 | 294,804 | 29,480 | 96 | 3,413,952 | 35,562 |
| 65-69 | 15 | 442,428 | 29,495 | 5 | 106,728 | 21,346 | 20 | 549,156 | 27,458 |
| 70-74 | 7 | 260,832 | 37,262 | 1 | 16,416 | 16,416 | 8 | 277,248 | 34,656 |
| 75+ | 6 | 181,152 | 30,192 | 0 | 0 | 0 | 6 | 181,152 | 30,192 |
| TOTAL | 7,666 | 291,609,923 | 38,039 | 920 | 31,209,141 | 33,923 | 8,586 | 322,819,064 | 37,598 |

EARNINGS BY SERVICE GROUPS

| SERVICE GROUP | MALE. |  |  | FEMALE. |  |  | TOTAL |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | COUNT | EARNINGS | AVERAGE | COUNT | EARNINGS | AVERAGE | COUNT | EARNINGS | AVERAGE |
| 0 | 423 | 10,038,504 | 23,732 | 75 | 1,604,990 | 21,400 | 498 | 11,643,494 | 23,381 |
| 1 | 973 | 27,962,438 | 28,738 | 158 | 4,434,060 | 28,064 | 1,131 | 32,396,498 | 28,644 |
| 2 | 674 | 21,174,974 | 31,417 | 91 | 2,703,972 | 29,714 | 765 | 23,878,946 | 31,214 |
| 3 | 705 | 23,380,956 | 33,164 | 112 | 3,460,428 | 30,897 | 817 | 26,841,384 | 32,854 |
| 4 | 459 | 16,155,912 | 35,198 | 55 | 1,872,480 | 34,045 | 514 | 18,028,392 | 35,075 |
| 0-4 | 3,234 | 98,712,784 | 30,523 | 491 | 14,075,930 | 28,668 | 3,725 | 112,788,714 | 30,279 |
| 5-9 | 1,853 | 71,309,556 | 38,483 | 242 | 8,508,091 | 35,157 | 2,095 | 79,817,647 | 38,099 |
| 10-14 | 1,398 | 61,240,332 | 43,806 | 108 | 4,508,748 | 41,748 | 1,506 | 65,749,080 | 43,658 |
| 15-19 | 587 | 27,485,815 | 46,824 | 45 | 2,191,068 | 48,690 | 632 | 29,676,883 | 46,957 |
| 20-24 | 340 | 17,924,256 | 52,718 | 30 | 1,688,868 | 56,296 | 370 | 19,613,124 | 53,008 |
| 25-29 | 188 | 10,998,180 | 58,501 | 4 | 236,436 | 59,109 | 192 | 11,234,616 | 58,514 |
| 30-34 | 52 | 3,097,716 | 59,571 | 0 | 0 | 0 | 52 | 3,097,716 | 59,571 |
| 35-39 | 12 | 723,396 | 60,283 | 0 | 0 | 0 | 12 | 723,396 | 60,283 |
| 40+ | 2 | 117,888 | 58,944 | 0 | 0 | 0 | 2 | 117,888 | 58,944 |
| TOTAL | 7,666 | 291,609,923 | 38,039 | 920 | 31,209,141 | 33,923 | 8,586 | 322,819,064 | 37,598 |

## COUNTY EMPLOYEES RETIREMENT SYSTEM NONHAZARDOUS DUTY EMPLOYEE CLASSIFICATION <br> JUNE 30, 2001

SERVICE GROUPS BY AGE GROUPS
MALE

| AGE | . . . . . . . . . . . . . . . . . . . . . SERVICE |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | GROUP |  |  |  |  |  |  |  |  |  |
| GROUP | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | $40+$ | TOTAL |
| 0-19 | 1,866 |  |  |  |  |  |  |  |  | 1,866 |
| 20-24 | 3,262 | 294 |  |  |  |  |  |  |  | 3,556 |
| 25-29 | 1,452 | 513 | 20 |  |  |  |  |  |  | 1,985 |
| 30-34 | 1,550 | 750 | 241 | 10 |  |  |  |  |  | 2,551 |
| 35-39 | 1,514 | 781 | 691 | 278 | 17 |  |  |  |  | 3,281 |
| 40-44 | 1,526 | 887 | 706 | 509 | 348 | 40 |  |  |  | 4,016 |
| 45-49 | 1,298 | 907 | 703 | 490 | 404 | 234 | 19 |  |  | 4,055 |
| 50-54 | 1,123 | 793 | 751 | 437 | 336 | 221 | 66 | 7 |  | 3,734 |
| 55-59 | 845 | 582 | 491 | 314 | 207 | 121 | 43 | 17 | 3 | 2,623 |
| 60-64 | 492 | 377 | 386 | 279 | 147 | 79 | 16 | 7 | 1 | 1,784 |
| 65-69 | 247 | 184 | 160 | 71 | 50 | 12 | 7 | 3 |  | 734 |
| 70-74 | 93 | 68 | 89 | 29 | 19 | 4 | 2 | 2 | 2 | 308 |
| 75+ | 19 | 23 | 34 | 20 | 12 | 3 | 1 | 2 |  | 114 |
| TOTAL | 15,287 | 6,159 | 4,272 | 2,437 | 1,540 | 714 | 154 | 38 | 6 | 30,607 |

## FEMALE <br> AGE

| GROUP | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | $40+$ | TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0-19 | 102 |  |  |  |  |  |  |  |  | 102 |
| 20-24 | 1,202 | 39 |  |  |  |  |  |  |  | 1,241 |
| 25-29 | 2,157 | 389 | 16 |  |  |  |  |  |  | 2,562 |
| 30-34 | 3,145 | 948 | 256 | 23 |  |  |  |  |  | 4,372 |
| 35-39 | 4,128 | 1,772 | 626 | 226 | 12 |  |  |  |  | 6,764 |
| 40-44 | 3,871 | 2,793 | 1,138 | 393 | 278 | 34 |  |  |  | 8,507 |
| 45-49 | 2,752 | 2,793 | 1,763 | 615 | 366 | 181 | 22 |  |  | 8,492 |
| 50-54 | 1,867 | 1,926 | 1,806 | 893 | 465 | 205 | 65 | 7 |  | 7,234 |
| 55-59 | 1,111 | 1,126 | 1,131 | 763 | 563 | 202 | 43 | 16 | 5 | 4,960 |
| 60-64 | 522 | 636 | 596 | 401 | 348 | 138 | 30 | 6 | 4 | 2,681 |
| 65-69 | 162 | 215 | 214 | 144 | 87 | 26 | 11 | 1 | 5 | 865 |
| 70-74 | 56 | 61 | 77 | 48 | 31 | 4 | 2 |  | 1 | 280 |
| 75+ | 31 | 15 | 18 | 21 | 16 | 2 | 2 |  | 1 | 106 |
| TOTAL | 21,106 | 12,713 | 7,641 | 3,527 | 2,166 | 792 | 175 | 30 | 16 | 48,166 |

TOTAL

| AGE | . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . SERVICE |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | GROUP |  |  |  |  |  |  |  |  |  |
| GROUP | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | $40+$ | TOTAL |
| 0-19 | 1,968 |  |  |  |  |  |  |  |  | 1,968 |
| 20-24 | 4,464 | 333 |  |  |  |  |  |  |  | 4,797 |
| 25-29 | 3,609 | 902 | 36 |  |  |  |  |  |  | 4,547 |
| 30-34 | 4,695 | 1,698 | 497 | 33 |  |  |  |  |  | 6,923 |
| 35-39 | 5,642 | 2,553 | 1,317 | 504 | 29 |  |  |  |  | 10,045 |
| 40-44 | 5,397 | 3,680 | 1,844 | 902 | 626 | 74 |  |  |  | 12,523 |
| 45-49 | 4,050 | 3,700 | 2,466 | 1,105 | 770 | 415 | 41 |  |  | 12,547 |
| 50-54 | 2,990 | 2,719 | 2,557 | 1,330 | 801 | 426 | 131 | 14 |  | 10,968 |
| 55-59 | 1,956 | 1,708 | 1,622 | 1,077 | 770 | 323 | 86 | 33 | 8 | 7,583 |
| 60-64 | 1,014 | 1,013 | 982 | 680 | 495 | 217 | 46 | 13 | 5 | 4,465 |
| 65-69 | 409 | 399 | 374 | 215 | 137 | 38 | 18 | 4 | 5 | 1,599 |
| 70-74 | 149 | 129 | 166 | 77 | 50 | 8 | 4 | 2 | 3 | 588 |
| 75+ | 50 | 38 | 52 | 41 | 28 | 5 | 3 | 2 | 1 | 220 |
| TOTAL | 36,393 | 18,872 | 11,913 | 5,964 | 3,706 | 1,506 | 329 | 68 | 22 | 78,773 |

```
COUNTY EMPLOYEES RETIREMENT SYSTEM HAZARDOUS DUTY EMPLOYEE CLASSIFICATION
JUNE 30, 2001
```

SERVICE GROUPS BY AGE GROUPS
MALE

| AGE | . . . . . . . . . . . . . . . . . . . SERVICE |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | GROUP |  |  |  |  |  |  |  |  |  |
| GROUP | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | $40+$ | TOTAL |
| 0-19 | 126 |  |  |  |  |  |  |  |  | 126 |
| 20-24 | 402 | 8 |  |  |  |  |  |  |  | 410 |
| 25-29 | 975 | 252 | 2 |  |  |  |  |  |  | 1,229 |
| 30-34 | 775 | 634 | 204 | 1 |  |  |  |  |  | 1,614 |
| 35-39 | 373 | 443 | 539 | 136 | 4 |  |  |  |  | 1,495 |
| 40-44 | 221 | 204 | 340 | 261 | 79 | 1 |  |  |  | 1,106 |
| 45-49 | 141 | 162 | 166 | 119 | 161 | 91 | 8 |  |  | 848 |
| 50-54 | 102 | 74 | 93 | 44 | 73 | 80 | 27 | 1 |  | 494 |
| 55-59 | 79 | 43 | 30 | 20 | 19 | 16 | 15 | 8 |  | 230 |
| 60-64 | 30 | 26 | 16 | 5 | 3 |  | 2 | 3 | 1 | 86 |
| 65-69 | 6 | 5 | 4 |  |  |  |  |  |  | 15 |
| 70-74 | 1 |  | 4 | 1 |  |  |  |  | 1 | 7 |
| 75+ | 3 | 2 |  |  | 1 |  |  |  |  | 6 |
| TOTAL | 3,234 | 1,853 | 1,398 | 587 | 340 | 188 | 52 | 12 | 2 | 7,666 |

## FEMALE

AGE
GROUP
$0-19$
$20-24$
$25-29$
$30-34$
$35-39$
$40-44$
$45-49$
$50-54$
$55-59$
$60-64$
$65-69$
$70-74$
$75+$
TOTAL

| GROUP |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | $40+$ | TOTAL |
| 3 |  |  |  |  |  |  |  |  | 3 |
| 29 |  |  |  |  |  |  |  |  | 29 |
| 119 | 16 |  |  |  |  |  |  |  | 135 |
| 106 | 75 | 12 | 1 |  |  |  |  |  | 194 |
| 73 | 51 | 41 | 10 |  |  |  |  |  | 175 |
| 55 | 31 | 28 | 23 | 7 |  |  |  |  | 144 |
| 51 | 29 | 12 | 6 | 12 | 1 |  |  |  | 111 |
| 29 | 20 | 7 | 4 | 9 | 3 |  |  |  | 72 |
| 20 | 13 | 5 | 1 | 2 |  |  |  |  | 41 |
| 4 | 3 | 3 |  |  |  |  |  |  | 10 |
| 2 | 3 |  |  |  |  |  |  |  | 5 |
|  | 1 |  |  |  |  |  |  |  | 1 |
| 491 | 242 | 108 | 45 | 30 | 4 | 0 | 0 | 0 | 920 |

## TOTAL

| AGE | . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . SERVICE |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | GROUP . |  |  |  |  |  |  |  |  |  |
| GROUP | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40+ | TOTAL |
| 0-19 | 129 |  |  |  |  |  |  |  |  | 129 |
| 20-24 | 431 | 8 |  |  |  |  |  |  |  | 439 |
| 25-29 | 1,094 | 268 | 2 |  |  |  |  |  |  | 1,364 |
| 30-34 | 881 | 709 | 216 | 2 |  |  |  |  |  | 1,808 |
| 35-39 | 446 | 494 | 580 | 146 | 4 |  |  |  |  | 1,670 |
| 40-44 | 276 | 235 | 368 | 284 | 86 | 1 |  |  |  | 1,250 |
| 45-49 | 192 | 191 | 178 | 125 | 173 | 92 | 8 |  |  | 959 |
| 50-54 | 131 | 94 | 100 | 48 | 82 | 83 | 27 | 1 |  | 566 |
| 55-59 | 99 | 56 | 35 | 21 | 21 | 16 | 15 | 8 |  | 271 |
| 60-64 | 34 | 29 | 19 | 5 | 3 |  | 2 | 3 | 1 | 96 |
| 65-69 | 8 | 8 | 4 |  |  |  |  |  |  | 20 |
| 70-74 | 1 | 1 | 4 | 1 |  |  |  |  | 1 | 8 |
| 75+ | 3 | 2 |  |  | 1 |  |  |  |  | 6 |
| TOTAL | 3,725 | 2,095 | 1,506 | 632 | 370 | 192 | 52 | 12 | 2 | 8,586 |

## COUNTY EMPLOYEES RETIREMENT SYSTEM NONHAZARDOUS DUTY EMPLOYEE CLASSIFICATION JUNE 30, 2001

AVERAGE EARNINGS FOR SERVICE GROUPS BY AGE GROUPS

| AGE | . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . SERVICE |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | GROUP |  |  |  |  |  |  |  |  |  |
| GROUP | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | $40+$ | TOTAL |
| 0-19 | 1,968 |  |  |  |  |  |  |  |  | 1,968 |
|  | 14,495 |  |  |  |  |  |  |  |  | 14,495 |
| 20-24 | 4,464 | 333 |  |  |  |  |  |  |  | 4,797 |
|  | 15,673 | 19,448 |  |  |  |  |  |  |  | 15,935 |
| 25-29 | 3,609 | 902 | 36 |  |  |  |  |  |  | 4,547 |
|  | 17,835 | 22,175 | 24,465 |  |  |  |  |  |  | 18,748 |
| 30-34 | 4,695 | 1,698 | 497 | 33 |  |  |  |  |  | 6,923 |
|  | 17,014 | 23,386 | 27,815 | 29,313 |  |  |  |  |  | 19,411 |
| 35-39 | 5,642 | 2,553 | 1,317 | 504 | 29 |  |  |  |  | 10,045 |
|  | 15,724 | 20,454 | 28,663 | 30,917 | 31,507 |  |  |  |  | 19,430 |
| 40-44 | 5,397 | 3,680 | 1,844 | 902 | 626 | 74 |  |  |  | 12,523 |
|  | 16,373 | 19,154 | 25,556 | 32,411 | 34,368 | 40,567 |  |  |  | 20,740 |
| 45-49 | 4,050 | 3,700 | 2,466 | 1,105 | 770 | 415 | 41 |  |  | 12,547 |
|  | 17,315 | 18,893 | 23,362 | 29,087 | 34,531 | 39,108 | 46,754 |  |  | 21,879 |
| 50-54 | 2,990 | 2,719 | 2,557 | 1,330 | 801 | 426 | 131 | 14 |  | 10,968 |
|  | 18,408 | 19,652 | 21,967 | 25,876 | 30,669 | 39,854 | 45,987 | 43,168 |  | 22,541 |
| 55-59 | 1,956 | 1,708 | 1,622 | 1,077 | 770 | 323 | 86 | 33 | 8 | 7,583 |
|  | 17,107 | 19,153 | 21,396 | 23,649 | 25,419 | 35,281 | 42,006 | 51,930 | 53,712 | 21,505 |
| 60-64 | 1,014 | 1,013 | 982 | 680 | 495 | 217 | 46 | 13 | 5 | 4,465 |
|  | 16,073 | 17,729 | 20,869 | 22,762 | 24,250 | 32,014 | 39,787 | 38,179 | 86,131 | 20,591 |
| 65-69 | 409 | 399 | 374 | 215 | 137 | 38 | 18 | 4 | 5 | 1,599 |
|  | 14,592 | 14,910 | 17,701 | 18,999 | 22,821 | 30,033 | 35,783 | 23,628 | 60,718 | 17,469 |
| 70-74 | 149 | 129 | 166 | 77 | 50 | 8 | 4 | 2 | 3 | 588 |
|  | 15,273 | 12,731 | 17,454 | 17,835 | 17,216 | 32,417 | 39,261 | 35,418 | 62,220 | 16,536 |
| 75+ | 50 | 38 | 52 | 41 | 28 | 5 | 3 | 2 | 1 | 220 |
|  | 12,654 | 14,928 | 13,726 | 19,785 | 20,451 | 31,495 | 34,140 | 48,144 | 82,524 | 16,983 |
| TOTAL | 36,393 | 18,872 | 11,913 | 5,964 | 3,706 | 1,506 | 329 | 68 | 22 | 78,773 |
|  | 16,586 | 19,662 | 23,402 | 26,753 | 29,606 | 37,258 | 43,427 | 45,236 | 65,142 | 20,282 |

TOTAL EARNINGS 1,597,653,320
AVERAGE SERVICE 7.29

AVERAGE AGE
43.39

Note: Earnings shown in this matrix
have not been limited by 401 (a) (17).

## COUNTY EMPLOYEES RETIREMENT SYSTEM

 HAZARDOUS DUTY EMPLOYEE CLASSIFICATION JUNE 30, 2001AVERAGE EARNINGS FOR SERVICE GROUPS BY AGE GROUPS

| AGE | . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . SERVICE |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | GROUP |  |  |  |  |  |  |  |  |  |
| GROUP | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | $40+$ | TOTAL |
| 0-19 | 129 |  |  |  |  |  |  |  |  | 129 |
|  | 24,103 |  |  |  |  |  |  |  |  | 24,103 |
| 20-24 | 431 | 8 |  |  |  |  |  |  |  | 439 |
|  | 27,834 | 31,629 |  |  |  |  |  |  |  | 27,903 |
| 25-29 | 1,094 | 268 | 2 |  |  |  |  |  |  | 1,364 |
|  | 30,252 | 36,886 | 36,498 |  |  |  |  |  |  | 31,564 |
| 30-34 | 881 | 709 | 216 | 2 |  |  |  |  |  | 1,808 |
|  | 30,956 | 39,385 | 43,909 | 46,884 |  |  |  |  |  | 35,826 |
| 35-39 | 446 | 494 | 580 | 146 | 4 |  |  |  |  | 1,670 |
|  | 30,684 | 38,503 | 44,462 | 47,391 | 36,639 |  |  |  |  | 39,257 |
| 40-44 | 276 | 235 | 368 | 284 | 86 | 1 |  |  |  | 1,250 |
|  | 31,056 | 36,797 | 43,783 | 47,218 | 51,070 | 38,796 |  |  |  | 40,937 |
| 45-49 | 192 | 191 | 178 | 125 | 173 | 92 | 8 |  |  | 959 |
|  | 32,185 | 37,269 | 42,047 | 48,328 | 55,861 | 57,249 | 63,596 |  |  | 44,070 |
| 50-54 | 131 | 94 | 100 | 48 | 82 | 83 | 27 | 1 |  | 566 |
|  | 33,788 | 39,118 | 41,990 | 42,277 | 52,481 | 60,150 | 58,154 | 66,852 |  | 44,637 |
| 55-59 | 99 | 56 | 35 | 21 | 21 | 16 | 15 | 8 |  | 271 |
|  | 31,007 | 36,689 | 45,539 | 43,244 | 45,925 | 58,529 | 61,444 | 62,997 |  | 40,416 |
| 60-64 | 34 | 29 | 19 | 5 | 3 |  | 2 | 3 | 1 | 96 |
|  | 31,118 | 34,352 | 38,764 | 39,610 | 33,608 |  | 48,570 | 50,856 | 74,628 | 35,562 |
| 65-69 | 8 | 8 | 4 |  |  |  |  |  |  | 20 |
|  | 26,895 | 21,312 | 40,875 |  |  |  |  |  |  | 27,458 |
| 70-74 | 1 | 1 | 4 | 1 |  |  |  |  | 1 | 8 |
|  | 25,776 | 16,416 | 28,521 | 77,712 |  |  |  |  | 43,260 | 34,656 |
| 75+ | 3 | 2 |  |  | 1 |  |  |  |  | 6 |
|  | 28,156 | 27,342 |  |  | 42,000 |  |  |  |  | 30,192 |
| TOTAL | 3,725 | 2,095 | 1,506 | 632 | 370 | 192 | 52 | 12 | 2 | 8,586 |
|  | 30,279 | 38,099 | 43,658 | 46,957 | 53,008 | 58,514 | 59,571 | 60,283 | 58,944 | 37,598 |


| TOTAL EARNINGS | $322,819,064$ | Note: Earnings shown in this |
| :--- | ---: | :--- |
| AVERAGE SERVICE | 7.62 | matrix |
|  |  | have not been limited by |
|  | $401(\mathrm{a})(17)$. |  |

# COUNTY EMPLOYEES RETIREMENT SYSTEM NONHAZARDOUS DUTY EMPLOYEE CLASSIFICATION <br> TABULATION BY MONTHLY SALARY <br> JUNE 30, 2001 

| MONTHLY SALARY |  |  |  | NUMBER OF MEMBERS |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | MALES | FEMALES | TOTAL |
|  | UNDER | \$ | 500 | 816 | 1,292 | 2,108 |
| \$ | $500-$ | - \$ | 749 | 1,778 | 5,159 | 6,937 |
| \$ | $750-$ | - \$ | 999 | 2,824 | 11,740 | 14,564 |
| \$ | 1,000 - | - \$ | 1,249 | 2,718 | 7,509 | 10,227 |
| \$ | 1,250 - | - \$ | 1,499 | 3,036 | 5,451 | 8,487 |
| \$ | 1,500 - | - \$ | 1,749 | 3,207 | 4,354 | 7,561 |
| \$ | 1,750 - | - \$ | 1,999 | 2,952 | 3,327 | 6,279 |
| \$ | 2,000 - | - \$ | 2,249 | 2,551 | 2,633 | 5,184 |
| \$ | 2,250 - | - \$ | 2,499 | 2,056 | 1,983 | 4,039 |
| \$ | 2,500 - | - \$ | 2,749 | 1,780 | 1,405 | 3,185 |
| \$ | 2,750 - | - \$ | 2,999 | 1,358 | 986 | 2,344 |
| \$ | 3,000 - | - \$ | 3,499 | 2,011 | 1,098 | 3,109 |
| \$ | 3,500 - | - \$ | 3,999 | 1,188 | 483 | 1,671 |
| \$ | 4,000 - | - \$ | 4,499 | 725 | 265 | 990 |
| \$ | 4,500 - | - \$ | 4,999 | 485 | 171 | 656 |
| \$ | 5,000 - | - \$ | 5,499 | 425 | 135 | 560 |
| \$ | 5,500 - | - \$ | 5,999 | 235 | 60 | 295 |
| \$ | 6,000 - | - \$ | 6,499 | 146 | 43 | 189 |
| \$ | 6,500 - | - \$ | 6,999 | 109 | 23 | 132 |
| \$ | 7,000 - | - \$ | 7,499 | 46 | 14 | 60 |
| \$ | 7,500 - | - \$ | 7,999 | 43 | 5 | 48 |
| \$ | 8,000 - | - \$ | 8,499 | 30 | 5 | 35 |
| \$ | 8,500 - | - \$ | 8,999 | 22 | 4 | 26 |
|  | 9,000 - | - \$ | 9,499 | 17 | 8 | 25 |
|  | 9,500 - | - \$ | 9,999 | 13 | 2 | 15 |
|  | 10,000 | AND OVER |  | 36 | 11 | 47 |
| TOTAL |  |  |  | 30,607 | 48,166 | 78,773 |
| MPENSATED EMPLOYEES (ESTIMATED) |  |  |  |  |  |  |
|  | LARY OF | F \$80 | 000 AN | 195 | 45 | 240 |

# COUNTY EMPLOYEES RETIREMENT SYSTEM <br> HAZARDOUS DUTY EMPLOYEE CLASSIFICATION <br> TABULATION BY MONTHLY SALARY <br> JUNE 30, 2001 



## COUNTY EMPLOYEES RETIREMENT SYSTEM

 NONHAZARDOUS DUTY EMPLOYEE CLASSIFICATION MEMBERS WITH SERVICE IN ANOTHER SYSTEMJUNE 30, 2001
MEMBERS CURRENTLY ACTIVE IN CERS NONHAZARDOUS

| SERVICE IN | ACTIVE IN OTHER SYSTEM | INACTIVE IN OTHER SYSTEM | TOTAL |
| :--- | :---: | :---: | :---: | :---: |
| KERS - NONHAZARDOUS | 542 | 2,028 | 2,570 |
| KERS - HAZARDOUS | 21 | 55 | 76 |
| CERS - HAZARDOUS | 0 | 264 | 264 |
| STATE POLICE | 6 | 18 | 24 |
| TOTAL - ALL SYSTEMS | 569 | 2,365 | 2,934 |


| SERVICE IN | ACTIVE IN OTHER SYSTEM | INACTIVE IN OTHER SYSTEM | TOTAL |
| :---: | :---: | :---: | :---: |
| KERS - NONHAZARDOUS | 2,358 | 209 | 2,567 |
| KERS - HAZARDOUS | 216 | 58 | 274 |
| CERS - HAZARDOUS | 2,585 | 54 | 2,639 |
| STATE POLICE | 93 | 11 | 104 |
| TOTAL - ALL SY STEMS | 5,252 | 332 | 5,584 |

NOTE: DOES NOT INCLUDE INDIVIDUALS IN PAY STATUS IN OTHER SYSTEMS

MEMBERS CURRENTLY ACTIVE IN CERS HAZARDOUS

| SERVICE IN | ACTIVE IN OTHER SYSTEM | INACTIVE IN OTHER SYSTEM | TOTAL |
| :---: | :---: | :---: | :---: |
| KERS - NONHAZARDOUS | 22 | 279 | 301 |
| KERS - HAZARDOUS | 11 | 108 | 119 |
| CERS - NONHAZARDOUS | 0 | 2,585 | 2,585 |
| State police | 3 | 44 | 47 |
| TOTAL - ALL SYSTEMS | 36 | 3,016 | 3,052 |
| MEMBERS CURRENTLY NOT ACTIVE In CERS HAZARDOUS |  |  |  |
| SERVICE IN | ACTIVE IN OTHER SYSTEM | INACTIVE IN OTHER SYSTEM | TOTAL |
| KERS - NONHAZARDOUS | 73 | 29 | 102 |
| KERS - HAZARDOUS | 33 | 5 | 38 |
| CERS - NONHAZARDOUS | 264 | 54 | 318 |
| State police | 66 | 4 | 70 |
| TOTAL - ALL SYSTEMS | 436 | 92 | 528 |

NOTE: DOES NOT INCLUDE INDIVIDUALS IN PAY STATUS IN OTHER SYSTEMS

COUNTY EMPLOYEES RETIREMENT SYSTEM NONHAZARDOUS DUTY EMPLOYEE CLASSIFICATION

RETIRED LIVES SUMMARY
JUNE 30, 2001

|  | male lives |  | FEMALE LIVES |  | TOTAL |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | MONTHLY |  | MONTHLY |  | MONTHLY |  |
|  | NUMBER | BENEFITS | NUMBER | BENEFITS | NUMBER | BENEFITS |
| BASIC FORM | 2,352 | 1,481,788.81 | 7,455 | 3,304,148.74 | 9,807 | 4,785,937.55 |
| STRAIGHT LIFE (OLD PLAN) | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| JOINT \& SURVIVOR |  |  |  |  |  |  |
| 100\% TO BENEFICIARY | 1,636 | 1,065,937.33 | 625 | 219,624.32 | 2,261 | 1,285,561.65 |
| 66-2/3\% TO BENEFICIARY | 458 | 549,253.97 | 176 | 117,906.11 | 634 | 667,160.08 |
| 50\% TO BENEFICIARY | 695 | 676,875.85 | 437 | 293,347.66 | 1,132 | 970,223.51 |
| POP-UP OPTION | 1,433 | 1,343,458.62 | 826 | 519,820.72 | 2,259 | 1,863,279.34 |
| 10 YEARS CERTAIN | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 10 YEARS CERTAIN \& LIFE | 1,178 | 625,182.95 | 2,031 | 872,618.43 | 3,209 | 1,497,801.38 |
| SOCIAL SECURITY OPTION |  |  |  |  |  |  |
| OPTION C | 193 | 271,742.14 | 318 | 236,966.09 | 511 | 508,708.23 |
| OPTION D | 460 | 624,255.79 | 174 | 136,378.31 | 634 | 760,634.10 |
| OPTION E | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| OPTION F | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| DEPENDENT CHILD | 1 | 324.00 | 1 | 324.00 | 2 | 648.00 |
| REFUND | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 15 YEARS CERTAIN \& LIFE | 431 | 279,775.08 | 324 | 148,667.41 | 755 | 428,442.49 |
| 20 YEARS CERTAIN \& LIFE | 261 | 231,092.53 | 240 | 138,146.29 | 501 | 369,238.82 |
| 5 YEARS ONLY | 0 | 0.00 | 1 | 124.55 | 1 | 124.55 |
| TOTAL | 9,098 | 7,149,687.07 | 12,608 | 5,988,072.63 | 21,706 | 13,137,759.70 |
| C-38 |  |  |  |  |  |  |

COUNTY EMPLOYEES RETIREMENT SYSTEM HAZARDOUS DUTY EMPLOYEE CLASSIFICATION

RETIRED LIVES SUMMARY
JUNE 30, 2001

|  | MALE LIVES |  | FEMALE LIVES |  | TOTAL |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | MONTHLY |  | MONTHLY |  | MONTHLY |  |
|  | NUMBER | BENEFITS | NUMBER | BENEFITS | NUMBER | BENEFITS |
| BASIC FORM | 355 | 582,936.39 | 88 | 70,799.69 | 443 | 653,736.08 |
| STRAIGHT LIFE (OLD PLAN) | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| JOINT \& SURVIVOR |  |  |  |  |  |  |
| 100\% TO BENEFICIARY | 332 | 482,283.01 | 18 | 10,412.28 | 350 | 492,695.29 |
| 66-2/3\% TO BENEFICIARY | 159 | 306,674.91 | 5 | 7,067.84 | 164 | 313,742.75 |
| 50\% TO BENEFICIARY | 239 | 424,027.21 | 11 | 8,767.71 | 250 | 432,794.92 |
| POP-UP OPTION | 878 | 1,550,350.51 | 30 | 29,857.35 | 908 | 1,580,207.86 |
| 10 YEARS CERTAIN | 40 | 70,985.30 | 6 | 12,446.28 | 46 | 83,431.58 |
| 10 YEARS CERTAIN \& LIFE | 120 | 180,139.02 | 24 | 30,532.62 | 144 | 210,671.64 |
| SOCIAL SECURITY OPTION |  |  |  |  |  |  |
| OPTION C | 93 | 141,763.73 | 7 | 6,925.90 | 100 | 148,689.63 |
| OPTION D | 281 | 400,220.75 | 14 | 10,362.60 | 295 | 410,583.35 |
| OPTION E | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| OPTION F | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| DEPENDENT CHILD | 93 | 26,281.06 | 72 | 20,137.34 | 165 | 46,418.40 |
| REFUND | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 15 YEARS CERTAIN \& LIFE | 40 | 52,654.05 | 3 | 2,544.88 | 43 | 55,198.93 |
| 20 YEARS CERTAIN \& LIFE | 80 | 122,037.19 | 16 | 13,216.72 | 96 | 135,253.91 |
| 5 YEARS ONLY | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| TOTAL | 2,710 | 4,340,353.13 | 294 | 223,071.21 | 3,004 | 4,563,424.34 |
|  |  |  |  |  |  |  |

COUNTY EMPLOYEES RETIREMENT SYSTEM NONHAZARDOUS DUTY EMPLOYEE CLASSIFICATION

BENEFICIARY SUMMARY
JUNE 30, 2001

|  | MALE LIVES |  | FEMALE LIVES |  | TOTAL |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | MONTHLY |  | MONTHLY |  | MONTHLY |  |
|  | NUMBER | BENEFITS | NUMBER | BENEFITS | NUMBER | BENEFITS |
| BASIC FORM | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| STRAIGHT LIFE (OLD PLAN) | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| JOINT \& SURVIVOR |  |  |  |  |  |  |
| 100\% TO BENEFICIARY | 197 | 66,728.89 | 1,116 | 397,114.03 | 1,313 | 463,842.92 |
| 66-2/3\% TO BENEFICIARY | 19 | 5,240.09 | 125 | 43,188.89 | 144 | 48,428.98 |
| 50\% TO BENEFICIARY | 39 | 9,557.99 | 234 | 66,238.26 | 273 | 75,796.25 |
| POP-UP OPTION | 49 | 21,353.53 | 152 | 85,480.29 | 201 | 106,833. 82 |
| 10 YEARS CERTAIN | 49 | 21,300.97 | 101 | 61,776.29 | 150 | 83,077.26 |
| 10 YEARS CERTAIN \& LIFE | 71 | 34,733.11 | 126 | 58,358.97 | 197 | 93,092.08 |
| SOCIAL SECURITY OPTION |  |  |  |  |  |  |
| OPTION C | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| OPTION D | 8 | 1,800.63 | 41 | 43,342.82 | 49 | 45,143.45 |
| OPTION E | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| OPTION F | 1 | 393.19 | 4 | 615.45 | 5 | 1,008.64 |
| DEPENDENT CHILD | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| REFUND | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 15 YEARS CERTAIN \& LIFE | 28 | 16,750.31 | 93 | 47,677.60 | 121 | 64,427.91 |
| 20 YEARS CERTAIN \& LIFE | 24 | 8,329.90 | 47 | 32,165.45 | 71 | 40,495.35 |
| 5 YEARS ONLY | 124 | 48,581.86 | 61 | 48,894.97 | 185 | 97,476.83 |
| TOTAL | 609 | 234,770.47 | 2,100 | 884,853.02 | 2,709 | 1,119,623.49 |
|  |  | C- |  |  |  |  |

## COUNTY EMPLOYEES RETIREMENT SYSTEM

HAZARDOUS DUTY EMPLOYEE CLASSIFICATION
BENEFICIARY SUMMARY
JUNE 30, 2001

|  | male lives |  | FEMALE LIVES |  | TOTAL |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | MONTHLY |  | MONTHLY |  | MONTHLY |  |
|  | NUMBER | BENEFITS | NUMBER | BENEFITS | NUMBER | BENEFITS |
| BASIC FORM | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| STRAIGHT LIFE (OLD PLAN) | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| JOINT \& SURVIVOR |  |  |  |  |  |  |
| 100\% TO BENEFICIARY | 2 | 1,428.12 | 76 | 73,161.71 | 78 | 74,589.83 |
| 66-2/3\% TO BENEFICIARY | 0 | 0.00 | 15 | 15,063.30 | 15 | 15,063.30 |
| 50\% TO BENEFICIARY | 0 | 0.00 | 17 | 9,530.30 | 17 | 9,530.30 |
| POP-UP OPTION | 0 | 0.00 | 36 | 46,006.80 | 36 | 46,006.80 |
| 10 YEARS CERTAIN | 8 | 16,024.84 | 11 | 16,219.26 | 19 | 32,244.10 |
| 10 YEARS CERTAIN \& LIFE | 0 | 0.00 | 1 | 36.88 | 1 | 36.88 |
| SOCIAL SECURITY OPTION |  |  |  |  |  |  |
| OPTION C | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| OPTION D | 1 | 3,291.27 | 33 | 45,844.74 | 34 | 49,136.01 |
| OPTION E | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| OPTION F | 0 | 0.00 | 3 | 2,982.82 | 3 | 2,982.82 |
| DEPENDENT CHILD | 1 | 290.30 | 0 | 0.00 | 1 | 290.30 |
| REFUND | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 15 YEARS CERTAIN \& LIFE | 0 | 0.00 | 1 | 74.63 | 1 | 74.63 |
| 20 YEARS CERTAIN \& LIFE | 1 | 1,158.96 | 4 | 7,039.93 | 5 | 8,198.89 |
| 5 YEARS ONLY | 6 | 4,964.25 | 1 | 566.73 | 7 | 5,530.98 |
| TOTAL | 19 | 27,157.74 | 198 | 216,527.10 | 217 | 243,684.84 |
|  |  |  |  |  |  |  |

## COUNTY EMPLOYEES RETIREMENT SYSTEM

 NONHAZARDOUS DUTY EMPLOYEE CLASSIFICATIONVESTED RETIREMENT SUMMARY
JUNE 30, 2001

| $\begin{array}{r} \text { AGE NEAREST } \\ \text { BIRTHDAY } \\ \hline \end{array}$ | MALE LIVES |  | FEMALE LIVES |  | TOTAL |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | MONTHLY |  | MONTHLY |  | MONTHLY |
|  | NUMBER | BENEFITS | NUMBER | BENEFITS | NUMBER | BENEFITS |
| 15-19 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 20-24 | 25 | 2,703.75 | 2 | 230.77 | 27 | 2,934.52 |
| 25-29 | 40 | 6,264.72 | 40 | 5,095.28 | 80 | 11,360.00 |
| 30-34 | 99 | 22,147.22 | 178 | 29,673.44 | 277 | 51,820.66 |
| 35-39 | 173 | 52,534.39 | 306 | 67,684.63 | 479 | 120,219.02 |
| 40-44 | 192 | 72,453.48 | 484 | 103,568.52 | 676 | 176,022.00 |
| 45-49 | 275 | 103,121.14 | 566 | 133,323.75 | 841 | 236,444.89 |
| 50-54 | 282 | 115,306.04 | 636 | 170,080.97 | 918 | 285,387.01 |
| 55-59 | 165 | 58,354.37 | 305 | 66,323.35 | 470 | 124,677.72 |
| 60-64 | 90 | 25,815.58 | 116 | 24,404.01 | 206 | 50,219.59 |
| 65-69 | 31 | 4,090.26 | 32 | 5,989.95 | 63 | 10,080.21 |
| 70-74 | 10 | 862.93 | 10 | 2,298.17 | 20 | 3,161.10 |
| 75-79 | 14 | 1,256.73 | 5 | 554.93 | 19 | 1,811.66 |
| 80-84 | 1 | 156.92 | 3 | 329.62 | 4 | 486.54 |
| $85+$ | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| TOTAL | 1,397 | 465,067.53 | 2,683 | 609,557.39 | 4,080 | 1,074,624.92 |

COUNTY EMPLOYEES RETIREMENT SYSTEM HAZARDOUS DUTY EMPLOYEE CLASSIFICATION

VESTED RETIREMENT SUMMARY
JUNE 30, 2001

| AGE NEARESTBIRTHDAY | MALE LIVES |  | FEMALE LIVES |  | TOTAL |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | MONTHLY |  | MONTHLY |  | MONTHLY |
|  | NUMBER | BENEFITS | NUMBER | BENEFITS | NUMBER | BENEFITS |
| 15-19 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 20-24 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 25-29 | 7 | 1,371.48 | 1 | 190.01 | 8 | 1,561.49 |
| 30-34 | 22 | 7,824.77 | 3 | 726.24 | 25 | 8,551.01 |
| 35-39 | 21 | 8,162.63 | 8 | 1,942.77 | 29 | 10,105.40 |
| 40-44 | 24 | 10,916.26 | 5 | 1,940.02 | 29 | 12,856.28 |
| 45-49 | 30 | 13,058.24 | 3 | 1,372.26 | 33 | 14,430.50 |
| 50-54 | 11 | 5,121.22 | 4 | 1,015.96 | 15 | 6,137.18 |
| 55-59 | 3 | 836.13 | 1 | 70.89 | 4 | 907.02 |
| 60-64 | 3 | 369.97 | 0 | 0.00 | 3 | 369.97 |
| 65-69 | 2 | 565.07 | 0 | 0.00 | 2 | 565.07 |
| 70-74 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 75-79 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 80-84 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| $85+$ | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| TOTAL | 123 | 48,225.77 | 25 | 7,258.15 | 148 | 55,483.92 |

COUNTY EMPLOYEES RETIREMENT SYSTEM NONHAZARDOUS DUTY EMPLOYEE CLASSIFICATION

VESTED MEMBERSHIP SUMMARY
JUNE 30, 2001

| AGE NEARESTBIRTHDAY | MALE LIVES |  | FEMALE LIVES |  | TOTAL |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | ACCUMULATED |  | ACCUMULATED |  | ACCUMULATED |
|  | NUMBER | CONTRIBUTIONS | NUMBER | CONTRIBUTIONS | NUMBER | CONTRIBUTIONS |
| 15-19 | 2,321 | 385,886.36 | 113 | 38,853.81 | 2,434 | 424,740.17 |
| 20-24 | 738 | 657,989.04 | 429 | 189,866.34 | 1,167 | 847,855.38 |
| 25-29 | 966 | 626,194.68 | 1,849 | 1,202,258.60 | 2,815 | 1,828,453.28 |
| 30-34 | 1,210 | 941,610.86 | 2,723 | 2,079,874.04 | 3,933 | 3,021,484.90 |
| 35-39 | 1,043 | 827,436.04 | 2,260 | 1,830,321.13 | 3,303 | 2,657,757.17 |
| 40-44 | 968 | 746,135.58 | 2,230 | 1,840,980.48 | 3,198 | 2,587,116.06 |
| 45-49 | 892 | 800,090.55 | 1,884 | 1,912,674.71 | 2,776 | 2,712,765.26 |
| 50-54 | 725 | 917,674.76 | 1,396 | 1,515,905.51 | 2,121 | 2,433,580.27 |
| 55-59 | 446 | 599,092.95 | 726 | 785,234.03 | 1,172 | 1,384,326.98 |
| 60-64 | 307 | 336,556.05 | 372 | 345,498.81 | 679 | 682,054.86 |
| 65-69 | 171 | 167,419.47 | 160 | 146,774.47 | 331 | 314,193.94 |
| 70-74 | 93 | 66,820.67 | 89 | 44,354.49 | 182 | 111,175.16 |
| 75-79 | 61 | 23,993.72 | 41 | 16,323.35 | 102 | 40,317.07 |
| 80-84 | 27 | 15,619.03 | 17 | 7,306.33 | 44 | 22,925.36 |
| $85+$ | 8 | 2,277.17 | 11 | 3,698.29 | 19 | 5,975.46 |
| TOTAL | 9,976 | 7,114,796.93 | 14,300 | 11,959,924.39 | 24,276 | 19,074,721.32 |

COUNTY EMPLOYEES RETIREMENT SYSTEM

## HAZARDOUS DUTY EMPLOYEE CLASSIFICATION

VESTED MEMBERSHIP SUMMARY
JUNE 30, 2001

| AGE NEAREST | MALE LIVES |  | FEMALE LIVES |  | TOTAL |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | ACCUMULATED |  | ACCUMULATED |  | ACCUMULATED |
| BIRTHDAY | NUMBER | CONTRIBUTIONS | NUMBER | CONTRIBUTIONS | NUMBER | CONTRIBUTIONS |
| 15-19 | 64 | 15,822.02 | 0 | 0.00 | 64 | 15,822.02 |
| 20-24 | 33 | 61,746.22 | 0 | 0.00 | 33 | 61,746.22 |
| 25-29 | 84 | 157,207.46 | 15 | 38,873.61 | 99 | 196,081.07 |
| 30-34 | 79 | 129,436.87 | 18 | 34,820.48 | 97 | 164,257.35 |
| 35-39 | 51 | 92,597.27 | 14 | 8,856.86 | 65 | 101,454.13 |
| 40-44 | 33 | 55,104.64 | 7 | 3,329.61 | 40 | 58,434.25 |
| 45-49 | 20 | 81,468.39 | 5 | 7,144.15 | 25 | 88,612.54 |
| 50-54 | 17 | 27,967.04 | 5 | 53,485.16 | 22 | 81,452.20 |
| 55-59 | 7 | 29,108.72 | 3 | 5,211.32 | 10 | 34,320.04 |
| 60-64 | 2 | 11,948.61 | 1 | 1,009.88 | 3 | 12,958.49 |
| 65-69 | 3 | 1,542.03 | 0 | 0.00 | 3 | 1,542.03 |
| 70-74 | 1 | 239.26 | 0 | 0.00 | 1 | 239.26 |
| 75-79 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 80-84 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| $85+$ | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| TOTAL | 394 | 664,188.53 | 68 | 152,731.07 | 462 | 816,919.60 |
|  |  | C - |  |  |  |  |

## SECTION VI

## SUMMARY OF PRINCIPAL PLAN PROVISIONS

## Effective Date

The state of Kentucky established the County Employees Retirement System in July, 1958. The plan benefits have been improved several times, most recently as of August 1, 1998.

## Plan Year

A plan year is a twelve month period beginning on July 1.

## Final Compensation

Final compensation is the average salary during the five highest paid fiscal years for nonhazardous positions. If the months of service credit during the highest five year period is less than forty-eight, one or more additional fiscal years shall be used. For a member whose effective retirement date is between August 1, 2001 and January 1, 2009, and whose total service credit is at least 27 years and whose age and years of service total at least 75, final compensation is based on three years rather than five years.

For hazardous positions, final compensation is the average salary during the three highest paid fiscal years.

## Service

Service means the sum of prior service and current service as defined below:
(a) Prior service is credited for regular full-time employment of at least 100 hours of work per month with a participating agency before July 1, 1958. In some instances prior service credit is granted for time spent in the military.
(b) Current service is obtained for regular full-time employment which averages at least 100 hours of work per month with participating agencies after July 1, 1958. Current service credit may be granted for military service and educational leaves if special criteria are met.
(c) Employers may elect to purchase up to 6 months additional service credit based on an employee's unused sick leave.

## Eligibility

Any county or political subdivision or instrumentality, including school boards or urban county government may participate in the System upon approval by the Board. Membership in the system consists of:
(a) all persons who become employees of a county after such county first participates,
(b) all persons who are employees on the date a county first participates and who elect within thirty days to become members and make contributions.
Membership does not include employees of a county who are members of some other state, county, or local retirement system, supported in whole or in part by public funds.

## Normal Retirement Date

A member may elect to retire upon: (1) attaining age 65 for non-hazardous positions, or attaining age 55 for hazardous positions, and (2) having contributed to the System. Upon completion of 27 years of service credit, 15 of which are current service for non-hazardous positions, or completion of 20 years of service credit for hazardous positions, a member may elect to retire with an unreduced benefit.

## Early Retirement Date

A member may elect to retire before the normal retirement date at any time after: (1) for non-hazardous positions, attainment of age 55 and completion of 60 months of service credit at least 12 of which are current, or at any age after 25 years of service, or (2) for hazardous positions, attainment of age 50 and completion of 15 years of service credit.

## Normal Retirement Benefits

For non-hazardous positions, upon attainment of age 65 and completion of 48 months of service, of which 12 months are current service, a monthly benefit equal to $2.20 \%$ of the member's final compensation multiplied by his service will be payable. For hazardous positions, a monthly benefit equal to $2.50 \%$ of the member's final compensation multiplied by his service will be payable upon attainment of age 55 and completion of 60 months of service of which 12 months are current service. A member, with less than 48 months for non-hazardous positions or 60 months for hazardous positions, who retires on or after the normal retirement date is entitled to a retirement allowance which pays the actuarial equivalent of twice the member's accumulated contributions for life.

## Early Retirement Benefits

A member who elects early retirement is entitled to a monthly benefit reduced for each month by which the early retirement date precedes the first date on which the member would qualify for an unreduced benefit. If a non-hazardous position employee has 27 or more years of service credit, 15 of which are current, or a hazardous position employee has 20 or more years of service credit, an unreduced benefit is payable.

## Disability Benefits

A member with 60 months of service, 12 of which must be current service, is entitled to a retirement allowance computed in the same manner as the normal retirement benefit with service and final compensation determined as of the disability date. Service credit shall be added on to total service for the period from the last day of paid employment to the 65th birthday (55th for members in a hazardous position) up to a maximum of service credited to the last day of paid employment. Except for members with 25 or more ( 20 or more for hazardous) years of service on the last day of paid employment, the maximum combined service credit (total service and added service) shall not exceed 25 years ( 20 years for
hazardous members). For non-hazardous position employees with 25 or more years of service, additional years of service credit will be added up to maximum combined limit of 30 , or actual service if greater. For hazardous position employees with 20 or more years of service credit, actual service will be used.

A member in a hazardous position who is disabled in the line of duty is entitled to a retirement benefit of not less than $25 \%$ of the member's final monthly rate of pay plus $10 \%$ of his final monthly rate of pay for each dependent child. The maximum dependent child's benefit is $40 \%$ of the member's final monthly rate of pay. A partial disability benefit may be payable to hazardous employees if the disability is not total and permanent. The disability will be reduced to a rate determined by the Board.

## Death Benefits

If a member dies prior to retirement, but after 60 months of service, 12 of which are current and who is a contributing member, or after 12 years of service, one of which is current and who is not a contributing member, or after 48 months service if the member is age 65 or over, a benefit will be payable to the beneficiary based on the member's age, years of service and final compensation at the date of death. The benefit will be equal to the amount payable had the employee retired and elected a joint and $100 \%$ survivorship payment form.

If a member in a hazardous position dies in the line of duty and has a spouse as beneficiary, a $\$ 5,000$ lump sum payment will be made and a benefit of $25 \%$ of the member's final monthly rate of pay will be payable until death or remarriage. If the member in a hazardous position dies in the line of duty and has a dependent as beneficiary, a lump sum payment of $\$ 10,000$ will be made. Monthly payments shall be made for each dependent child equal to $10 \%$ of the member's final monthly rate of pay, but not greater than $40 \%$ of the member's final monthly rate of pay. The beneficiary of a hazardous duty member with 5 or more years of service, one of which is current, may elect a death benefit computed in the same manner as a non-hazardous employee using $2.50 \%$ rather than $2.20 \%$.

Upon the death of a retired member, who had a minimum of 48 months of service credit, a death benefit of $\$ 5,000$ is payable.

## Optional Forms of Payment

Joint and survivor annuities which provide a reduced benefit for the life of the member, with the benefit at the same or at a further reduced rate continuing after the member's death until the death of the designated beneficiary may be elected by the member prior to retirement. Other optional forms include a life annuity with 10,15 or 20 years of payments guaranteed and a Social Security adjustment with or without survivor rights.

## Contributions

Members contribute 5\% of gross compensation ( $8 \%$ for hazardous positions). On each June 30, interest is credited at the rate to be determined by the Board on the accumulated contributions the member had in his account on the previous June 30. Upon termination a member may withdraw the contributions with interest, but will be entitled to no benefit payments.

## Medical Insurance

Recipients of a retirement benefit may elect to participate in a voluntary hospital/medical group insurance plan for themselves as well as any beneficiaries or dependents. The cost of participation for any beneficiaries or dependents is borne by the retiree (except that dependents of hazardous position employees and legislators will have the same percentage paid by the system as the member). The retirement system will pay a portion of the cost of participation for the retiree based on years of service credit as follows:

| Less than 4 years | $0 \%$ |
| :--- | :---: |
| $4-9$ years | $25 \%$ |
| $10-14$ years | $50 \%$ |
| $15-19$ years | $75 \%$ |
| 20 or more years | $100 \%$ |

If a hazardous member is disabled in the line of duty, the retirement system will pay $100 \%$ of the cost of the member, spouse and eligible dependents. If a hazardous member is killed in the line of duty, the retirement system will pay $100 \%$ of the cost of the beneficiary and eligible dependents as long as they remain eligible for a monthly benefit payment.

## Increase in Retirement Allowances

Effective August 1, 1996, and on July 1 of each year thereafter, a recipient of a retirement allowance shall have his retirement allowance increased by the percentage increase in the annual average of the consumer price index for all urban consumers for the most recent calendar year as published by the federal Bureau of Labor Statistics, not to exceed five percent (5\%). In determining the annual employer contribution rate, only the cost of increases granted as of the most recent valuation date shall be recognized. The benefits of this subsection as provided on August 1, 1996 and thereafter shall not be considered as benefits protected by the inviolable contract provisions of KRS 61.692, 16.652, and 78.852. The General Assembly reserves the right to suspend or reduce the benefits conferred in this subsection if in their judgment the welfare of the Commonwealth so demands.

# FORTY-THIRD ANNUAL ACTUARIAL VALUATION 

JUNE 30, 2001
STATE POLICE RETIREMENT SYSTEM

FRANKFORT, KENTUCKY

## SECTION I

## INTRODUCTION

The results of the forty-third annual actuarial valuation of the State Police Retirement System are presented in this report. The actuarial valuation was made on the basis of the data provided by the System as of June 30, 2001.

The purpose of the actuarial valuation is to determine the actuarial condition of the Retirement System and the rate of employer contribution for the ensuing fiscal year as required to support the System.

The plan provisions utilized in this valuation are described in the Summary of Principal Plan Provisions in Section VI. The basis of funding is defined in KRS 61.565 and provides that the actuarial valuation method would be uniform for all benefits provided by the System. The Entry Age Normal Actuarial cost method has been used for all benefits. KRS 61.565 provides that each employer participating in the System shall contribute an amount equal to the Normal Cost contribution rate, and an amount sufficient to amortize the Unfunded Actuarial Accrued Liability over 30 years using the level-percentage-ofpayroll method. This is the standard used herein to determine whether the funding of the System is adequate.

The actuarial valuation results are based upon the employee census and asset data supplied by the office of the System, and upon the actuarial assumptions as stated in Section II.

## SECTION II

## ACTUARIAL CONSIDERATIONS

## Description of Actuarial Methods

The actuarial valuation is the means by which the contingent liabilities and contribution rates of a retirement system are evaluated and determined. It provides a guide to the System as to the financing required during years of active service to accumulate the funds needed to provide members' benefits. It also makes it possible to estimate beforehand the cost of proposed changes in the System so that action can be taken in the light of the cost consequences.

The methods of valuation are prescribed by KRS 61.565. The Entry Age Normal Cost Method was used to determine costs of all benefits with the exception of the retiree medical insurance benefit. Under this method the employer's contribution to the retirement system consists of Normal Cost, a payment to fund the Unfunded Actuarial Accrued Liability, medical insurance, and administrative expenses. The Normal Cost represents the contribution (as a level percent of payroll) that completely funds benefits at retirement if made from a person's entry into employment until his retirement. The Actuarial Accrued Liability represents the sum of money and investments that would be held in the fund if the retirement system had been in effect since the date each member was first employed. The payment to fund the Unfunded Actuarial Accrued Liability is the amount necessary to amortize this liability over 30 years using the "level-percentage-of-payroll" method. Under the "level-percentage-of-payroll" method, the amortization payment is an amount which remains constant as a percentage of payroll over the 30 years. The initial 30 year period began with the 1990 valuation. In each subsequent valuation, any change in Unfunded Actuarial Accrued Liability is identified and established as a separate amortization base with a 30 year funding period beginning with that valuation. The change in Unfunded Actuarial Accrued Liability established as a separate base in each valuation will include changes attributable to experience gains and/or losses over the prior year, as well as changes attributable to benefit improvements and revisions in actuarial assumptions and funding methods.

The medical insurance contribution rate was originally determined in the 1987 valuation as the level percent of payroll necessary to fund projected medical insurance premiums over the next sixteen years (taking into account the level of reserves in the Insurance Fund). Beginning in 1988, this rate is being increased each year by a percentage amount needed to reach the Entry Age Normal funding rate within a 20 year period measured from 1987. This was continued through the 1992 valuation. In the 1992 valuation, an acceleration of the scheduled increases in the medical insurance contribution rate was recommended where possible. This acceleration in these rates was coupled with a deferral of future increases until the time of the next experience study, unless there was a deterioration in the funded position of the medical premium benefit in which case the rate levels were to be reviewed to redetermine an appropriate current funding level, or unless recommended contributions are not made in the prior year, in which case the shortfall would be spread over future years through an increase in the contribution rate. This continued through the 1995 valuation. Effective with the 1996 valuation, a new medical insurance funding policy was adopted by the Board. Under this revised policy, the medical insurance contribution rate for the 1996 valuation was set equal to the 1995 rate plus any reduction in the retirement and administrative expense rates between the 1995 and 1996 valuations (but in no event to be less than the 1995 medical insurance contribution rate). Beginning with the 1997 valuation, the
medical insurance contribution rate is to be increased at the start of each biennium (coincides with valuations in odd numbered years) by the percentage amount necessary to raise this medical insurance rate to the full Entry Age Normal Cost Method contribution rate by the year 2016. There will be no changes in the even numbered years unless there are actuarial gains relative to the retirement funding which will then be used to increase the medical insurance funding rate for the next year only.

The Board reviewed this funding policy in conjunction with the experience study prepared following the 2000 valuation. The current policy relative to the establishment of the permanent portion of the insurance fund rate was not changed. But in years where there may be a temporary reduction in the retirement fund contribution rate, the Board may use the amount of that reduction as an additional temporary contribution to the insurance fund.

In computing the full Entry Age Normal Cost Method contribution rate, liabilities are to be developed based on actuarial assumptions in use in the current valuation (as adjusted from time to time due to experience studies) and actuarial value of assets based on the same method as employed for the retirement benefit valuation. The actuarial value of assets for the medical contribution rate valuation utilized book value prior to the 1996 valuation, and a 5 -year market to book value average from 1996 through the 2000 valuation. The current asset valuation method was employed effective with the 2001 valuation.

The amount of the administrative expense was based on the budgeted amount for the twelve months following the date of the valuation

## Actuarial Assumptions

Since the actuarial valuation involves estimates of benefits payable in the future, it is necessary that assumptions be made as to the interest earnings, rates of mortality, withdrawal, retirement, and disability, and the rate at which salaries will increase. In addition, an assumption must be made relative to increases in medical insurance rates in order to value the liability for the medical insurance benefit.

It is desirable that the actuarial assumptions be reviewed periodically to see whether past experience and probable future experience justifies the continued use of these actuarial assumptions. Such a study was performed subsequent to the 2000 actuarial valuation and new actuarial assumptions were adopted by the Board for use in the 2001 and subsequent actuarial valuations, until such time as another experience study is performed. This valuation reflects assumptions based on the 2000 experience study. The actuarial assumptions as used in this valuation are described later in this section.

## Actuarial Value of Assets

The actuarial value of assets is determined in the following manner for both the Retirement Fund and Insurance Fund:

1. Develop expected assets by projecting valuation assets from the prior valuation using the assumed valuation interest rate from the prior valuation and actual cash flows for the 12 months ending on the current valuation date.
2. The current year investment gain/loss shall be determined as the difference between actual market value as of the current valuation date and expected assets as computed in (1), further adjusted for any amount of investment gain/loss from prior years not yet recognized as of the current valuation date.
3. The amount of investment gain/loss for the current year shall be reflected equally over the current year and the following 4 years.
4. Valuation assets will be equal to expected assets from (1) plus/minus the amount of investment gain/loss from the current and prior 4 years to be recognized in the current year.
5. The starting point for this method shall be the actuarial value of assets as computed in the 2000 valuation under the prior asset valuation method then in effect. Only investment gains/losses occurring after June 30, 2000 shall be recognized and amortized under this method.

The following table shows the derivation of valuation assets for the Retirement Fund and the Insurance Fund as of the current valuation:

|  | RETIREMENT FUND | INSURANCE FUND |
| :---: | :---: | :---: |
| June 30. 2000 Valuation Assets | 459.168.574 | 71.711 .712 |
| Cash Flows |  |  |
| > Employer Contributions | 1,516,267 | 8,113,391 |
| > Member Contributions | 4,138,298 |  |
| > Retirement Benefits | 22,644,170 |  |
| > Net Refunds | 80,369 |  |
| > Insurance Premiums |  | 3,545,672 |
| > Administrative Expenses | 64,171 | 28,055 |
| > Investment Manager Fees | 149,945 | 6,583 |
| Valuation Interest Assumption | 8.25\% | 8.25\% |
| Expected Return on Valuation Assets |  |  |
| Reflecting Actual Cash Flows * | 37,168,439 | 6,103,206 |
| Expected Valuation Assets | 479.052 .923 | 82.347 .999 |
| Actual Market Value of Assets | 364.591 .852 | 69.925.891 |
| Investment Gain/(Loss) | (114.461.071) | (12.422.108) |
| Amortization Amounts From Prior Valuations > Valuation Year - 1 |  |  |
|  |  |  |
| >> Initial Amount | N/A | N/A |
| >> Current Valuation Amount | N/A | N/A |
| >> Amortization | N/A | N/A |
| > Valuation Year - 2 |  |  |
| >> Initial Amount | N/A | N/A |
| >> Current Valuation Amount | N/A | N/A |
| >> Amortization | N/A | N/A |
| > Valuation Year - 3 |  |  |
| >> Initial Amount | N/A | N/A |
| >> Current Valuation Amount | N/A | N/A |
| >> Amortization | N/A | N/A |
| > Valuation Year - 4 |  |  |
| >> Initial Amount | N/A | N/A |
| >> Current Valuation Amount | N/A | N/A |
| >> Amortization | N/A | N/A |
| Unamortized Amount of Gain/(Loss) From Prior |  |  |
| Investment Gain/(Loss) to be Amortized from |  |  |
| Current Valuation Date |  |  |
| > Amount | $(114,461,071)$ | $(12,422,108)$ |
| > Amortization | $(22,892,214)$ | $(2,484,422)$ |
| June 30. 2001 Valuation Assets |  |  |
| > Expected Assets | 479,052,923 | 82,347,999 |
| > Amortization Amounts | $(22,892,214)$ | (2,484,422) |
| > Valuation Assets | 456,160,709 | 79,863,577 |

*Cash flows are assumed equally spread throughout the year

## A. STATEMENT OF ACTUARIAL ASSUMPTIONS

(1) Mortality:
(a) Active \& retired lives
(b) Disabled lives
(2) Disablement
(3) Termination of employment \#
(4) Retirement
(5) Marital status
(a) Percentage married
(b) Age difference
(6) Dependent children
(7) Investment return
(8) Compensation progression \#
(9) Underlying Inflation Rate
(10) Retiree Medical Insurance \#

- 1983 Group Annuity Mortality Table, plus a pre-retirement duty death rate of .0005 per year.
- Social Security Administration Disability Mortality Rates - Actuarial Study No. 75 (current rates used by PBGC for disabled lives receiving Social Security).
- Graduated rates based on 2000 experience study (no change from 1995 experience study).
- Graduated rates based on 2000 experience study.
- $60 \%$ will retire as soon as eligible for unreduced benefits and balance will continue to age 55 .
- $100 \%$.
- Males are assumed to be 3 years older than their spouses.
- For duty related death benefits, it is assumed that the employee is survived by 2 dependent children, each age 6.
- $8.25 \%$ per year, net of investment related expenses, compounded annually.
- 1st year: $12.00 \%$

2nd year: $10.00 \%$
3rd year: $8.00 \%$
Thereafter: $6.50 \%$, compounded annually.

- $3.50 \%$ per year, reflected in investment return and compensation progression assumptions.
- It was assumed that future retirees would select medical coverage in the same proportion that current retirees have selected coverage.
Monthly contribution rates were assumed to be as follows:

| Plan Type | Rate in Effect <br> on Valuation Date |
| :--- | :---: |
| Single | $\$ 252.46$ |
| - Region 1 | 293.46 |
| - Region 2 | 273.52 |
| - Region 3 | 234.00 |
| - All Others | 577.00 |
| Family | 350.00 |
| Parent Plus | 525.00 |
| Couple | 96.41 |
| Medicare* | 229.03 |

Region 1: Boyd, Carter, Elliott, Greenup
Region 2: Christian, Daviess, Hancock, Henderson, Hopkins, McLean, Muhlenberg, Ohio, Todd, Trigg, Union, Webster

Region 3: Harlan, Lewis, Mason, Perry, Roberston

*Weighted average of current rates available from different carriers; weighting based on number of contracts in force.

In determining the target Entry Age Funding rate in valuations beginning with 1996, it was assumed that medical contribution rates would grow at the following annual levels:

| Years | Medical Increase |
| :--- | :---: |
|  | $12 \%$ |
| $2003-2005$ | $10 \%$ |
| $2006-2010$ | $9 \%$ |
| $2011-2015$ | $8 \%$ |
| $2016-2020$ | $7.5 \%$ |
| Thereafter | $7 \%$ |

(11) Missing data

- For those active members with incomplete data, the following assumptions were made:
. If reported salary was zero or blank, then monthly salary was assumed to be \$2,139.58.
. If reported age was blank, then assume current age equal to age 18 plus years of service reported
(12) Members with Multiple

Service Records

- For active members with service in more than one system, the liability has been valued as follows:
. Service under all systems is aggregated for purposes of determining benefit eligibility.
. Future service is projected only under the system in which the member is currently active.
. The actual benefit under each system is determined based only on service (past and projected future service, if applicable) under that system.
. The liability is determined under each system based on the actuarial assumptions used for the system in which the member is currently active. This liability is then included in the valuation of the system in which the service has been earned (or is projected to be earned).

For inactive members with service in more than one system, the benefit attributable to the service under each system is determined, and the liability for that benefit is then included in the valuation of the system in which the service was earned.
\# Changes in assumptions from those used in 2000 valuation.

## B. SAMPLE RATES

(1) Annual Rates of Mortality:

|  | Active Mortality* |  | Disabled Mortality <br> Age |  | $\underline{\text { Males }}$ |
| :--- | :--- | :--- | :--- | :--- | :--- |

*Plus $0.05 \%$ duty death rate prior to retirement.
(2) Annual Rates of Decrement:

| Age | Disablement | Ultimate Termination |  |
| :--- | :---: | :---: | :---: |
|  |  | KERS and CERS Hazardous | $\underline{\text { SPRS }}$ |
|  |  |  |  |
| 25 | $0.042 \%$ | $3.04 \%$ | $1.82 \%$ |
| 30 | $0.050 \%$ | $3.38 \%$ | $2.03 \%$ |
| 40 | $0.132 \%$ | $1.50 \%$ | $0.90 \%$ |
| 50 | $0.530 \%$ | $0.00 \%$ | $0.00 \%$ |
| 55 | $0.992 \%$ | $0.00 \%$ | $0.00 \%$ |
| 60 | $1.743 \%$ | $0.00 \%$ | $0.00 \%$ |

(3) Compensation Progression (after 1st 3 Years):

Rate of
Annual Increase
6.50\%
6.50\%
6.50\%
6.50\%

Compensation at Normal
Retirement as Percentage
Of Current Annual Compensation
661.4\%
482.8\%
257.2\%
137.0\%

## SECTION III

## RESULTS OF THE 2001 ACTUARIAL VALUATION

## Determination of Contribution Rate

The rate of contribution by the State required to provide 30 year amortization of the Unfunded Actuarial Accrued Liability under the level-percentage-of-payroll method, the employer share of the Normal Cost, medical insurance and the expenses of administration, is shown in Table I. The required contribution is expressed both in dollars and as a percentage of the estimated annual State payroll as of June 30, 2001.

The actuarial methods applied to determine the Normal Cost for the year commencing July 1, 2001 are described in Section II. These costs are classified by type of benefit. The Normal Cost contribution rate is determined by reducing the total Normal Cost by the expected employee contributions. A breakdown of actuarial liabilities and costs between Hazardous and Non-Hazardous position employees appears in Table II for the Retirement Fund and Table IV for the Insurance Fund. A breakdown of the total Unfunded Actuarial Accrued Liability into the amortization amounts by year is shown in Table III for the Retirement Fund and Table V for the Insurance Fund. Table VI has been included to show an estimate of projected payouts from the funds over the next 10 years based on current plan provisions and actuarial assumptions.

## Actuarial Balance Sheet

Table VII is the actuarial balance sheet of the State Police Retirement System as of June 30, 2001 for the Retirement Fund. Table VIII is the actuarial balance sheet for the Insurance Fund. The "actuarial balance sheet" displays the fundamental relationship between actual assets, future contributions, and future benefits. The asset side of the balance sheet is comprised of actual fund assets plus the actuarial present value of future contributions on behalf of current members. The actuarial present values of all projected benefit payments to present active and inactive members make up the balance sheet liabilities.

## Accountant's Information

Table IX contains additional information needed to comply with GASB disclosure requirements relative to the Retirement Fund.

Table X contains additional information needed to comply under GASB Statement No. 12 relative to the Insurance Fund.

| TABLEISTATE POLICERETIREMENT SYSTEMRETIREMENTANDINSURANCE FUNDDETERMINATION OFCONTRIBUTION RATE - JUNE 30, 2001 |  |  |  |
| :---: | :---: | :---: | :---: |
| UNFUNDED ACTUARIAL ACCRUED LIABILITY - RETIREMENT FUND |  |  |  |
|  |  |  | Percent |
| Total Actuarial Accrued Liability | \$ | 356,211,860 | 805.73\% |
| Assets at Actuarial Value |  | 456,160,709 | 1031.81\% |
| Unfunded Actuarial Accrued Liability | \$ | $(99,948,849)$ | (226.08\%) |
| Contribution - Payment on Unfunded Actuarial Accrued Liability | \$ | $(5,139,966)$ | (11.63\%) |
| NORMAL COST-RETIREMENT FUND |  |  |  |
| Retirement Benefits | + | 6,827,735 | 15.46\% |
| Disability Benefits |  | 283,201 | 0.63\% |
| Withdrawal Benefits (Vested and |  |  |  |
| Refund of Contributions) |  | 275,027 | 0.62\% |
| Survivor Benefits |  | 239,175 | 0.54\% |
| Total Normal Cost | \$ | 7,625,138 | 17.25\% |
| Less: Employee Contributions |  | 3,426,389 | 7.75\% |
| Normal Cost - State | \$ | 4,198,749 | 9.50\% |
| TOTAL ANNUALEMPLOYER COST - RETIREMENT AND INSURANCE FUND |  |  |  |
| Normal Cost | \$ | 4,198,749 | 9.50\% |
| Payment on Unfunded Actuarial Accrued Liability |  | $(5,139,966)$ | (11.63\%) |
| Administrative Expense |  | 194,082 | 0.44\% |
| Subtotal - Retirement Fund |  |  |  |
| (Not Less Than Zero) | \$ | 0 | 0.00\% |
| Group Hospital and Medical Insurance Premiums |  | 9,540,506 | 21.58\% |
| Total Annual Cost | \$ | 9,540,506 | 21.58\% |
| * Based on estimated annual salaries of | \$ | 44,209,944 |  |



TABLE III
STATE POLICERETIREMENT SYSTEM
UNFUNDED ACTUARIAL ACCRUED LIABILITY - RETIREMENTFUND - JUNE 30,2001

|  | Amount of Base on |  |  |  | Amortization Payment |  | Source of Base |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date Established |  | Date Established |  | Current Valuation Date |  |  |  |
| 6/30/1990 | \$ | 8,982,071 | \$ | 11,211,586 | \$ | 765,650 | Cumulative unfunded actuarial accrued liability set up as initial base under revised funding policy ( 30 year level percent of payroll method) |
| 6/30/1991 |  | 9,963,656 |  | 12,308,804 |  | 809,599 | Experience gains/losses for 7/1/1990 to 6/30/1991 |
| 6/30/1992 |  | $(24,502,117)$ |  | $(29,884,826)$ |  | $(1,897,806)$ | Experience gains/losses for 7/1/1991 to 6/30/1992; Retiree COLA's; Asset valuation method change |
| 6/30/1993 |  | $(3,706,436)$ |  | $(4,453,445)$ |  | $(273,646)$ | Experience gains/losses for 7/1/1992 to 6/30/1993; State contribution shortfall |
| 6/30/1994 |  | 10,380,135 |  | 12,262,095 |  | 730,502 | Experience gains/losses for 7/1/1993 to 6/30/1994; Retiree COLA's; State contribution shortfall |
| 6/30/1995 |  | 22,729,292 |  | 26,349,676 |  | 1,524,698 | Experience gains/losses for 7/1/1994 to 6/30/1995 |
| 6/30/1996 |  | $(17,793,855)$ |  | $(20,209,741)$ |  | $(1,137,748)$ | Experience gains/losses for 7/1/1995 to 6/30/1996; Revised actuarial assumptions |
| 6/30/1997 |  | $(31,021,470)$ |  | $(34,437,148)$ |  | $(1,889,084)$ | Experience gains/losses for 7/1/1996 to 6/30/1997; 2.8\% retiree COLA effective 8/1/1996 |
| 6/30/1998 |  | 12,716,788 |  | 13,778,617 |  | 737,514 | Experience gains/losses for 7/1/1997 to 6/30/1998; Revised average salary definition from 5 years to 3 years; Increase in death benefit from $\$ 2,500$ to $\$ 5,000 ; 3.0 \%$ retiree COLA effective 7/1/1997 |
| 6/30/1999 |  | $(31,317,924)$ |  | $(33,076,611)$ |  | $(1,729,808)$ | Experience gains/losses for 7/1/1998 to 6/30/1999; 2.3\% retiree COLA effective 7/1/1998 |
| 6/30/2000 |  | $(77,707,399)$ |  | $(79,904,019)$ |  | $(4,087,730)$ | Experience gains/losses for 7/1/1999 to 6/30/2000; 1.6\% retiree COLA effective 7/1/1999 |
| 6/30/2001 |  | 26,106,163 |  | 26,106,163 |  | 1,307,893 | Experience gains/losses for 7/1/2000 to 6/30/2001; 2.2\% retiree COLA effective 7/1/2000 |
| Total | \$ | $(95,171,096)$ | \$ | $(99,948,849)$ | \$ | $(5,139,966)$ |  |



## TABLE V

STATE POLICERETIREMENT SYSTEM
UNFUNDED ACTUARIAL ACCRUED LIABILITY - INSURANCE FUND - JUNE 30, 2001

| Date Established | Amount of Base on |  |  |  | Amortization Payment |  | Source of Base |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Date Established |  | Current uation Date |  |  |  |
| 6/30/1996 | \$ | 73,323,619 | \$ | 83,278,826 | \$ | 4,688,348 | Cumulative unfunded actuarial accrued liability set up as initial base under revised funding policy ( 30 year level percent of payroll method) |
| 6/30/1997 |  | 8,088,952 |  | 8,979,603 |  | 492,585 | Experience gains/losses for 7/1/1996 to 6/30/1997; Impact of actual insurance fund contributions vs. full entry age amounts |
| 6/30/1998 |  | $(2,668,212)$ |  | $(2,891,002)$ |  | $(154,744)$ | Experience gains/losses for 7/1/1997 to 6/30/1998; Impact of actual insurance fund contributions vs. full entry age amounts |
| 6/30/1999 |  | (13,378,283) |  | $(14,129,553)$ |  | $(738,933)$ | Experience gains/losses for 7/1/1998 to 6/30/1999; Impact of actual insurance fund contributions vs. full entry age amounts |
| 6/30/2000 |  | $(6,431,546)$ |  | $(6,613,352)$ |  | $(338,326)$ | Experience gains/losses for 7/1/1999 to 6/30/2000; Impact of actual insurance fund contributions vs. full entry age amounts |
| 6/30/2001 |  | 9,773,380 |  | 9,773,380 |  | 489,637 | Experience gains/losses for 7/1/2000 to 6/30/2001; Impact of actual insurance fund contributions vs. full entry age amounts |
| Total | \$ | 68,707,910 | \$ | 78,397,902 | \$ | 4,438,567 |  |


| TABLE VI <br> STATE POLICERETIREMENT SYSTEM BENEFIT PAYMENT PROJECTIONS |  |
| :---: | :---: |
| RETIREMENT FUND PAYMENT PROJECTIONS |  |
| Plan Year | Total |
| 7/1/2001 to 6/30/2002 | 24,097,000 |
| $7 / 1 / 2002$ to $6 / 30 / 2003$ | 25,621,000 |
| $7 / 1 / 2003$ to $6 / 30 / 2004$ | 27,245,000 |
| $7 / 1 / 2004$ to $6 / 30 / 2005$ | 29,268,000 |
| 7/1/2005 to 6/30/2006 | 30,727,000 |
| $7 / 1 / 2006$ to $6 / 30 / 2007$ | 33,372,000 |
| 7/1/2007 to 6/30/2008 | 35,408,000 |
| $7 / 1 / 2008$ to $6 / 30 / 2009$ | 38,393,000 |
| 7/1/2009 to 6/30/2010 | 40,983,000 |
| 7/1/2010 to 6/30/2011 | 43,222,000 |
| INSURANCE FUND PAYMENT PROJECTIONS |  |
| Plan Year | Total |
| 7/1/2001 to 6/30/2002 | 4,403,000 |
| $7 / 1 / 2002$ to $6 / 30 / 2003$ | 5,014,000 |
| $7 / 1 / 2003$ to $6 / 30 / 2004$ | 5,688,000 |
| 7/1/2004 to 6/30/2005 | 6,392,000 |
| 7/1/2005 to 6/30/2006 | 7,084,000 |
| 7/1/2006 to 6/30/2007 | 8,035,000 |
| 7/1/2007 to 6/30/2008 | 8,832,000 |
| 7/1/2008 to 6/30/2009 | 9,885,000 |
| 7/1/2009 to 6/30/2010 | 11,012,000 |
| 7/1/2010 to 6/30/2011 | 12,175,000 |
| Projected benefit payments reflect future actual experience consistent with actuarial assumptions used in current annual valuation. Future cost-of-living adjustments of $3 \%$ per annum have been assumed in retirement benefit amounts. Insurance fund payments reflect future medical inflation rates consistent with the valuation assumption. There has not been any assumption made as to the number of future new entrants $w$ ho may enter the plan. Nor has any provision been made for any change in the basic benefit structure of the plan beyond changes already legislated. |  |


| TABLE VIISTATEPOLICERETIREMENT SYSTEMRETIREMENTFUNDACTUARIAL BALANCESHEET - JUNE 30, 2001 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| ACTUARIALASSETS |  |  |  |  |
| Fund Assets at Actuarial Value (Plus Refunds and |  |  |  |  |
| Actuarial Present Value of Future M ember Contributions |  |  |  | 33,977,686 |
| Actuarial Present Value of Future Employer |  |  |  |  |
| Contributions |  |  |  |  |
| For Normal Costs <br> For Unfunded Actuarial Accrued Liability | \$ | 41,422,943 |  |  |
|  |  | $(99,948,849)$ |  |  |
| Total |  |  | \$ | (58,525,906) |
| Total Actuarial Assets |  |  | \$ | 431,612,489 |
| ACTUARIAL LIABILITIES |  |  |  |  |
| Actuarial Present Value of Future Benefits Inactive M embers: |  |  |  |  |
|  |  |  |  |  |
| Retired Members and Beneficiaries | \$ | 224,139,350 |  |  |
| Vested Retirement |  | 232,861 |  |  |
| Vested M embership |  | 60,561 |  |  |
| Total-Inactive |  |  | \$ | 224,432,772 |
| Actuarial Present Value of Future Benefits |  |  |  |  |
| Active Members: |  |  |  |  |
| Retirement Benefits | \$ | 193,083,480 |  |  |
| Disability Benefits |  | 5,395,695 |  |  |
| Withdrawal Benefits (Vested and |  |  |  |  |
| Refund of Contributions) |  | 3,386,840 |  |  |
| Survivor BenefitsTotal - Active |  | 5,313,702 |  |  |
|  |  |  | \$ | 207,179,717 |
| Refunds and Expenses Payable |  |  | \$ | 0 |
| Total Actuarial Liabilities |  |  | \$ | 431,612,489 |
| Notes |  |  |  |  |
| * Values as of June 30, 2001 |  |  |  |  |
| M arket value of assets: |  |  | \$ | 364,591,852 |
| Actuarial value of assets: |  |  | \$ | 456,160,709 |
| M ember's Contribution Account: |  |  | \$ | 34,338,478 |


| TABLEVIIISTATE POLICERETIREMENT SYSTEMINSURANCEFUNDACTUARIAL BALANCESHEET - JUNE 30, 2001 |  |  |  |
| :---: | :---: | :---: | :---: |
| ACTUARIAL ASSETS |  |  |  |
| Fund Assets at Actuarial Value (Plus Refun Expenses Payable) * |  | \$ | 79,863,577 |
| Actuarial Present Value of Future M ember Cor <br> Future M ember Contributions Credited A | Note: All <br> ent Fund) |  | 0 |
| Actuarial Present Value of Future Employer Contributions <br> For Normal Costs <br> For Unfunded Actuarial Accrued Liability Total | $\$ \quad 69,968,924$ $78,397,902$ | \$ | 148,366,826 |
| Total Actuarial Assets |  | \$ | 228,230,403 |
| ACTUARIAL LIABILITIES |  |  |  |
| Actuarial Present Value of Future Benefits <br> Inactive M embers: <br> Retired M embers and Beneficiaries <br> Vested Retirement <br> Vested Membership <br> Total - Inactive | $\begin{array}{r} \text { \$ } \\ \\ 495,969,362 \\ 499,748 \\ 0 \end{array}$ | \$ | 86,469,110 |
| Actuarial Present Value of Future Benefits  <br> Active Members: $\$ \quad 141,761,293$ <br> R  |  |  |  |
| Refunds and Expenses Payable |  |  | 0 |
| Total Actuarial Liabilities |  | \$ | 228,230,403 |
| Notes |  |  |  |
| * Values as of June 30, 2001 $M$ arket value of assets: Actuarial value of assets: |  | \$ | $\begin{aligned} & 69,925,891 \\ & 79,863,577 \end{aligned}$ |



| State policeretirement system <br> ACCOUNTANT'S INFORMATION - INSURANCEFUND - JUNE 30, 2001 INFORMATION REQUIRED UNDER GASB STATEMENT NO. 12 |  |
| :---: | :---: |
| NUMBER OFMEMBERS |  |
| Contracts in Force - Retirees and Dependents |  |
| (1) Single; - $100 \%$ Paid | 187 |
| Pre-Medicare - 75\% Paid | 2 |
| 50\% Paid | 4 |
| 25\% Paid | 1 |
| 0\% Paid | 0 |
| (2) Family; $\quad$ - 100\% Paid | 121 |
| Pre-Medicare - $75 \%$ Paid | 0 |
| 50\% Paid | 1 |
| 25\% Paid | 0 |
| 0\% Paid | 0 |
| (3) Parent +; $\quad-100 \%$ Paid | 47 |
| Pre-Medicare - $75 \%$ Paid | 0 |
| 50\% Paid | 0 |
| 25\% Paid | 0 |
| 0\% Paid | 0 |
| (4) Couple; - $100 \%$ Paid | 222 |
| Pre-Medicare - $75 \%$ Paid | 3 |
| 50\% Paid | 1 |
| - $25 \%$ Paid | 2 |
| - 0\% Paid | 0 |
| (5) M edicare Regular $\quad-100 \%$ Paid | 8 |
| 75\% Paid | 0 |
| 50\% Paid | 0 |
| 25\% Paid | 0 |
| - 0\% Paid | 0 |
| (6) M edicare High - $100 \%$ Paid | 272 |
| Option - $75 \%$ Paid | 3 |
| 50\% Paid | 1 |
| 25\% Paid | 1 |
| - 0\% Paid | 1 |
| Vested Retirements | 12 |
| Vested Membership | 78 |
| Active Members | 1,016 |
| UNFUNDED MEDICAL BENEFIT OBLIGATION |  |
| Medical Benefit Obligation |  |
| Retirees, Beneficiaries and Vested Terminated $M$ embers | 86,469,110 |
| Active Members | 71,792,369 |
| Total Medical Benefit Obligation | 158,261,479 |
| Net Assets at Actuarial Value | 79,863,577 |
| Unfunded Medical Benefit Obligation | \$ 78,397,902 |
| NOTE: M edical Benefit Obligation based on Ent | Cost Method |

## SECTION IV

## COMMENTS AND CERTIFICATION

## Comments

For the Retirement Fund, the total Actuarial Accrued Liability has increased from \$336,579,763 on June 30, 2000 to $\$ 356,211,860$ on June 30, 2001. The Unfunded Actuarial Accrued Liability has increased from $(\$ 122,588,811)$ to $(\$ 99,948,849)$. Total actuarial value of assets as of June 30, 2001 was equal to $\$ 456,160,709$. The Unfunded Actuarial Accrued Liability increased from ( $281.19 \%$ ) to ( $226.08 \%$ ) as a percentage of annual payroll and increased from (36.4\%) to $(28.1 \%)$ as a percentage of the Actuarial Accrued Liability in the year ended June 30, 2001.

For the Insurance Fund, the total Actuarial Accrued Liability has increased from $\$ 138,867,085$ on June 30, 2000 to $\$ 158,261,479$ on June 30, 2001. The Unfunded Actuarial Accrued Liability has increased from $\$ 67,155,373$ to $\$ 78,397,902$. Total actuarial value of assets as of June 30, 2001 was equal to $\$ 79,863,577$. The Unfunded Actuarial Liability increased from $48.4 \%$ to $49.5 \%$ as a percentage of the Actuarial Accrued Liability in the year ended June 30, 2001.

The change in contribution rate between the 2000 and 2001 valuations is a function of actual plan experience since the last valuation. A formal gain and loss analysis would identify the portion of the contribution rate change attributable to each element of plan experience and benefit change. However, undertaking such an analysis would be extremely time consuming and expensive. In lieu of the formal analysis, we have estimated the impact of the various components of gain and loss based on changes in statistical averages of each group. The following table shows the results of this computation:

| June 30, 2000 Contribution Rate | $21.58 \%$ |
| :--- | :---: |
| Change in Payment Percentage Due to Covered Payroll Experience | $(0.49 \%)$ |
| Investment Return Experience |  |
| $>$ Prior to Asset Valuation Method Change | $0.06 \%$ |
| $>$ Impact of Asset Valuation Method Change | $2.54 \%$ |
| Salary Increase Experience | $0.20 \%$ |
| Decrements Experience* | $(0.26 \%)$ |
| Change in Insurance Fund Rate | $(0.33 \%)$ |
| $>$ One-Year Temporary Funding Rate | $0.33 \%$ |
| Increase in Long Term Funding Rate | $(0.21 \%)$ |
| Change in Administrative Expense Rate | $0.55 \%$ |
| Retiree COLA Effective 7/1/2000 | $0.00 \%$ |
| Legislated Changes | $1.23 \%$ |
| $>3$ Year Average Window for Nonhazardous | $(3.62 \%)$ |
| Change in Actuarial Assumptions | $21.58 \%$ |
| Reduction in Amount Available from Prior Year Retirement Fund Rate to |  |
| Offset Current Year Increases |  |
| June 30, 2001 Contribution Rate |  |
| * Includes mortality, disability, termination of employment and retirement experience. |  |

The annual State contribution rate required to provide the Normal Cost, 30 year amortization of the Unfunded Actuarial Accrued Liability under the level-percentage-of-payroll method, and pay administrative expenses is $0.00 \%$. An additional $21.58 \%$ is required to fund medical insurance for retirees, bringing the required contribution up to $21.58 \%$. This is the same as the current $21.58 \%$ budgeted contribution rate. Therefore, it is our opinion that the contribution rate beginning July 1,2002 should remain at the $21.58 \%$ level, and we so recommend.

The recommended contribution rates are based on current statutory benefits. The budgeted contribution rates will again be reviewed in the June 30, 2002 valuation.

The following table shows the total Actuarial Accrued Liability, the Unfunded Actuarial Accrued Liability, percent unfunded and the growth of the invested assets relative to retirement related benefits at selected intervals since the inception of the System.

| STATE POLICE RETIREMENT SYSTEM - RETIREMENT FUND |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| July 1 of Year Shown | Total Actuarial Accrued Liability | Unfunded Actuarial Accrued Liability | Percent Unfunded | Actuarial Value of Assets | Increase in Assets |
| 1958 | \$ 1,450,000 | \$ 1,450,000 | 100.0\% | \$ 0 | \$ 0 |
| 1963 | 4,553,258 | 2,008,476 | 44.1\% | 2,544,782 | 619,167 |
| 1968 | 9,079,139 | 3,288,103 | 36.2\% | 5,791,036 | 789,709 |
| 1971 | 11,828,727 | 2,441,888 | 20.6\% | 9,386,839* | 1,339,726 |
| 1974 | 17,737,434 | 3,179,448 | 17.9\% | 14,557,986* | 1,935,105 |
| 1975 | 23,182,081 | 6,169,445 | 26.6\% | 17,012,636* | 2,454,650 |
| 1976 | 28,693,129 | 8,231,367 | 28.7\% | 20,461,762* | 3,449,126 |
| 1977 | 34,561,413 | 10,436,161 | 30.2\% | 24,125,252* | 3,663,490 |
| 1978 | 49,950,102 | 21,440,957 | 42.9\% | 28,509,145* | 4,383,893 |
| 1979 | 55,391,206 | 21,487,985 | 38.8\% | 33,903,221* | 5,394,076 |
| 1980 | 67,580,562 | 26,663,397 | 39.5\% | 40,917,165* | 7,013,944 |
| 1981 | 71,526,728 | 23,296,425 | 32.6\% | 48,230,303 | 7,313,138 |
| 1982 | 78,713,172 | 21,383,042 | 27.2\% | 57,330,130 | 9,099,827 |
| 1983 | 81,944,546 | 16,187,460 | 19.8\% | 65,757,086 | 8,426,956 |
| 1984 | 91,180,668 | 16,200,151 | 17.8\% | 74,980,517 | 9,223,431 |
| 1985 | 99,269,825 | 14,253,583 | 14.4\% | 85,016,242 | 10,035,725 |
| 1986 | 105,559,951 | 8,892,252 | 8.4\% | 96,667,699 | 11,651,457 |
| 1987 | 111,541,989 | 1,347,385 | 1.2\% | 110,194,604 | 13,526,905 |
| 1988 | 120,128,367 | $(870,182)$ | (0.8\%) | 120,998,549 | 10,803,945 |
| 1989 | 134,550,773 | 3,200,220 | 2.4\% | 131,350,553 | 10,352,004 |
| 1990 | 154,007,622 | 8,982,071 | 5.8\% | 145,025,551 | 13,674,998 |
| 1991 | 170,009,955 | 19,191,881 | 11.3\% | 150,818,074 | 5,792,523 |
| 1992** | 182,996,056 | $(4,794,955)$ | (2.6\%) | 187,791,011 | 36,972,937 |
| 1993 | 191,653,594 | (8,667,374) | (4.5\%) | 200,320,968 | 12,529,957 |
| 1994 | 206,763,310 | 1,442,801 | 0.7\% | 205,320,509 | 4,999,541 |
| 1995 | 241,690,631 | 24,186,188 | 10.0\% | 217,504,443 | 12,183,934 |
| 1996 | 244,540,812 | 7,025,466 | 2.9\% | 237,515,346 | 20,010,903 |
| 1997 | 255,784,758 | $(23,858,517)$ | (9.3\%) | 279,643,275 | 42,127,929 |
| 1998 | 294,427,019 | $(11,891,899)$ | (4.0\%) | 306,318,918 | 26,675,643 |
| 1999 | 314,021,673 | $(43,601,523)$ | (13.9\%) | 357,623,196 | 51,304,278 |
| 2000 | 336,579,763 | $(122,588,811)$ | (36.4\%) | 459,168,574 | 101,545,378 |
| 2001*** | 356,211,860 | $(99,948,849)$ | (28.1\%) | 456,160,709 | $(3,007,865)$ |
| *Includes capitalized appreciation of investments. |  |  |  |  |  |
| **Change in asset valuation method effective in this valuation from book value to a five year average of market to book values. |  |  |  |  |  |
| ***Change in asset valuation method effective in this valuation to 5-year smoothing of investment gains/(losses). |  |  |  |  |  |

The following table shows the total Actuarial Accrued Liability, the Unfunded Actuarial Accrued Liability, percent unfunded and the growth of the invested assets relative to medical premium benefits since 1990 .

| STATE POLICE RETIREMENT SYSTEM - INSURANCE FUND |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| July 1 of Year Shown | Total Actuarial Accrued Liability | Unfunded <br> Actuarial <br> Accrued <br> Liability | Percent <br> Unfunded | Actuarial Value of Assets | Increase in Assets |
| 1990 | \$ 64,784,801 | \$ 58,268,284 | 89.9\% | \$ 6,516,517 | \$ N/A |
| 1991 | 74,163,248 | 65,231,704 | 88.0\% | 8,931,544 | 2,415,027 |
| 1992 | 88,407,634 | 76,689,678 | 86.7\% | 11,717,956 | 2,786,412 |
| 1993 | 95,290,099 | 81,004,620 | 85.0\% | 14,285,479 | 2,567,523 |
| 1994 | 110,193,139 | 92,782,467 | 84.2\% | 17,410,672 | 3,125,193 |
| 1995 | 118,995,732 | 97,795,537 | 82.2\% | 21,200,195 | 3,789,523 |
| 1996** | 101,132,886 | 73,323,619 | 72.5\% | 27,809,267 | 6,609,072 |
| 1997 | 117,361,754 | 83,485,271 | 71.1\% | 33,876,483 | 6,067,216 |
| 1998 | 124,501,076 | 83,090,576 | 66.7\% | 41,410,500 | 7,534,017 |
| 1999 | 125,797,150 | 71,867,291 | 57.1\% | 53,929,859 | 12,519,359 |
| 2000 | 138,867,085 | 67,155,373 | 48.4\% | 71,711,712 | 17,781,853 |
| 2001*** | 158,261,479 | 78,397,902 | 49.5\% | 79,863,577 | 8,151,865 |
| **Change in asset valuation method effective in this valuation from book value to a five year average of market to book values. |  |  |  |  |  |
| ***Change in asset valuation method effective in this valuation to 5-year smoothing of investment gains/(losses). |  |  |  |  |  |

## Certification

On the basis of the actuarial assumptions given and the data furnished by the General Manager of the State Police Retirement System, it is certified that the actuarial valuation has been made by the use of accepted actuarial principles and based on continuation of current funding polices adopted by the Board, that adequate provision is being made for the funding of future benefits.

We are available to answer any questions on the material contained in the report, or to provide explanations or further details as may be appropriate. The undersigned credentialed actuaries meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report.

Stephen A. Gagel, F.S.A.

Edward W. Maynard, F.S.A.

William M. Mercer, Incorporated
462 South Fourth Avenue, Suite 1500
Louisville, Kentucky 40202-3431
(D) (502) 561-4500

## Date

## Date

## SECTION V

## STATISTICAL DATA

AS OF
JUNE 30, 2001

STATE POLICE RETIREMENT SYSTEM
JUNE 30, 2001
EARNINGS BY AGE GROUPS


EARNINGS BY SERVICE GROUPS
SERVICE . . . . . . . .MALE. . . . . . . . . . . . . . . . . . .FEMALE. . . . . . . . . . . . . . . . . . TOTAL. . . . . . . . . . . GROUP COUNT EARNINGS AVERAGE COUNT EARNINGS AVERAGE COUNT EARNINGS AVERAGE

| 0 | 17 | 291,996 | 17,176 | 1 | 8,256 | 8,256 | 18 | 300,252 | 16,681 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 1 | 117 | $3,092,172$ | 26,429 | 3 | 83,736 | 27,912 | 120 | $3,175,908$ | 26,466 |
| 2 | 48 | $1,514,400$ | 31,550 | 4 | 124,524 | 31,131 | 52 | $1,638,924$ | 31,518 |
| 3 | 0 |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | 64 | $2,136,828$ | 33,388 | 6 | 205,152 | 34,192 | 70 | $2,341,980$ | 33,457 |
|  |  |  |  |  |  |  |  |  |  |
| $0-4$ | 246 | $7,035,396$ | 28,599 | 14 | 421,668 | 30,119 | 260 | $7,457,064$ | 28,681 |
| $5-9$ | 209 | $8,233,812$ | 39,396 | 9 | 363,408 | 40,379 | 218 | $8,597,220$ | 39,437 |
| $10-14$ | 148 | $6,556,032$ | 44,298 | 5 | 223,776 | 44,755 | 153 | $6,779,808$ | 44,312 |
| $15-19$ | 192 | $9,466,668$ | 49,306 | 8 | 378,492 | 47,312 | 200 | $9,845,160$ | 49,226 |
| $20-24$ | 69 | $3,900,252$ | 56,525 | 1 | 77,856 | 77,856 | 70 | $3,978,108$ | 56,830 |
| $25-29$ | 80 | $5,108,184$ | 63,852 | 0 | 0 | 0 | 80 | $5,108,184$ | 63,852 |
| $30-34$ | 32 | $2,241,336$ | 70,042 | 0 | 0 | 0 | 32 | $2,241,336$ | 70,042 |
| $35-39$ | 3 | 203,064 | 67,688 | 0 | 0 | 0 | 3 | 203,064 | 67,688 |
| $40+$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  |  |  |  |  |  |  |  |  |
| TOTAL | 979 | $42,744,744$ | 43,662 | 37 | $1,465,200$ | 39,600 | 1,016 | $44,209,944$ | 43,514 |

STATE POLICE RETIREMENT SYSTEM
JUNE 30, 2001
SERVICE GROUPS BY AGE GROUPS
$\frac{\text { MALE }}{\text { AGE }}$
GROUP
$0-19$ 20-24 25-29 30-34 35-39 40-44 45-49 50-54 55-59 60-64 65-69 70-74

75+ TOTAL
$\frac{\text { FEMALE }}{\text { AGE }}$
GROUP
0-19 20-24 25-29 30-34 35-39 40-44 45-49 50-54 55-59 60-64 65-69 70-74 75+ TOTAL


## $\frac{\text { TOTAL }}{\text { AGE }}$

GROUP
 0-19 20-24 25-29 30-34 35-39 40-44 45-49 50-54 55-59 60-64 65-69 70-74 75+ TOTAL

STATE POLICE RETIREMENT SYSTEM
JUNE 30, 2001
AVERAGE EARNINGS FOR SERVICE GROUPS BY AGE GROUPS

| AGE | . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . SERVICE |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | GROUP |  |  | .$15-19$ | . . . .20-24 | 25-29 |  | 35-39 | $40+$ | TOTAL |
| GROUP | 0-4 | 5-9 | 10-14 |  |  |  | 30-34 |  |  |  |
| 0-19 | 3 |  |  |  |  |  |  |  |  | 3 |
|  | 24,000 |  |  |  |  |  |  |  |  | 24,000 |
| 20-24 | 41 |  |  |  |  |  |  |  |  | 41 |
|  | 25,144 |  |  |  |  |  |  |  |  | 25,144 |
| 25-29 | 129 | 44 |  |  |  |  |  |  |  | 173 |
|  | 28,960 | 38,620 |  |  |  |  |  |  |  | 31,417 |
| 30-34 | 65 | 134 |  | 1 |  |  |  |  |  | 241 |
|  | 30,144 | 39,726 | 43,819 | 44,844 |  |  |  |  |  | 37,859 |
| 35-39 | 15 | 36 | 87 | 49 |  |  |  |  |  | 187 |
|  | 30,450 | 39,268 | 44,373 | 48,057 |  |  |  |  |  | 43,238 |
| 40-44 | 5 | 3 | 24 | 108 | 13 |  |  |  |  | 153 |
|  | 28,973 | 41,056 | 44,903 | 49,818 | 55,208 |  |  |  |  | 48,652 |
| 45-49 | 1 |  |  | 41 | 46 | 40 |  |  |  | 128 |
|  | 33,492 |  |  | 49,256 | 56,985 | 61,849 |  |  |  | 55,846 |
| 50-54 |  |  | 1 | 1 | 11 | 38 | 16 | 2 |  | 69 |
|  |  |  | 45,132 | 45,684 | 58,101 | 66,386 | 68,906 | 67,548 |  | 65,075 |
| 55-59 |  | 1 |  |  |  | 2 | 16 | 1 |  | 20 |
|  |  | 37,908 |  |  |  | 55,776 | 71,177 | 67,968 |  | 67,813 |
| 60-64 |  |  |  |  |  |  |  |  |  | 0 |
| 65-69 |  |  |  |  |  |  |  |  |  | 0 |
| 70-74 | 1 |  |  |  |  |  |  |  |  | 1 |
|  | 23,820 |  |  |  |  |  |  |  |  | 23,820 |
| 75+ |  |  |  |  |  |  |  |  |  | 0 |
| TOTAL | 260 | 218 | 153 | 200 | 70 | 80 | 32 | 3 | 0 | 1,016 |
|  | 28,681 | 39,437 | 44,312 | 49,226 | 56,830 | 63,852 | 70,042 | 67,688 |  | 43,514 |

TOTAL EARNINGS

AVERAGE AGE
AVERAGE SERVICE
$44,209,944$
36.92
11.77

Note: Earnings shown in this matrix
have not been limited by 401 (a) (17).

STATE POLICE RETIREMENT SYSTEM
TABULATION BY MONTHLY SALARY
JUNE 30, 2001

|  | MONTHLY SALARY |  |  | NUMBER OF MEMBERS |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | MALES | FEMALES | TOTAL |
|  | UNDER | \$ | 500 | 3 | 0 | 3 |
| \$ | \$ 500 | - \$ | 749 | 2 | 1 | 3 |
| \$ | \$ 750 | - \$ | 999 | 1 | 0 | 1 |
| \$ | \$ 1,000 | - \$ | 1,249 | 2 | 0 | 2 |
| \$ | \$ 1,250 | - \$ | 1,499 | 1 | 0 | 1 |
| \$ | \$ 1,500 | - \$ | 1,749 | 1 | 0 | 1 |
| \$ | \$ 1,750 | - \$ | 1,999 | 8 | 0 | 8 |
| \$ | \$ 2,000 | - \$ | 2,249 | 43 | 0 | 43 |
| \$ | \$ 2,250 | - \$ | 2,499 | 77 | 3 | 80 |
| \$ | \$ 2,500 | - \$ | 2,749 | 68 | 9 | 77 |
| \$ | \$ 2,750 | \$ | 2,999 | 45 | 0 | 45 |
| \$ | \$ 3,000 | - \$ | 3,499 | 214 | 9 | 223 |
| \$ | \$ 3,500 | - \$ | 3,999 | 198 | 10 | 208 |
| \$ | \$ 4,000 | - \$ | 4,499 | 134 | 4 | 138 |
| \$ | \$ 4,500 | - \$ | 4,999 | 77 | 0 | 77 |
|  | \$ 5,000 | - \$ | 5,499 | 47 | 0 | 47 |
|  | \$ 5,500 | - \$ | 5,999 | 35 | 0 | 35 |
|  | \$ 6,000 | - \$ | 6,499 | 13 | 1 | 14 |
|  | \$ 6,500 | - \$ | 6,999 | 4 | 0 | 4 |
|  | \$ 7,000 | - \$ | 7,499 | 5 | 0 | 5 |
|  | \$ 7,500 | - \$ | 7,999 | 1 | 0 | 1 |
|  | \$ 8,000 | - \$ | 8,499 | 0 | 0 | 0 |
|  | \$ 8,500 | - \$ | 8,999 | 0 | 0 | 0 |
|  | \$ 9,000 | - \$ | 9,499 | 0 | 0 | 0 |
|  | \$ 9,500 | - \$ | 9,999 | 0 | 0 | 0 |
| \$ | \$ 10,000 | AND | OVER | 0 | 0 | 0 |
|  |  |  | TAL | 979 | 37 | 1,016 |
| HIGHLY COMP | PENSATED | D EM | PLOYE |  |  |  |
| ANNUAL SA | ALARY OF | F \$66 | ,000 AN | 5 | 0 | 5 |

STATE POLICE RETIREMENT SYSTEM MEMBERS WITH SERVICE IN ANOTHER SYSTEM JUNE 30, 2001

| SERVICE IN | ACTIVE IN OTHER SYSTEM | INACTIVE IN OTHER SYSTEM | TOTAL |
| :---: | :---: | :---: | :---: |
| KERS - NONHAZARDOUS | 0 | 109 | 109 |
| KERS - HAZARDOUS | 1 | 20 | 21 |
| CERS - NONHAZARDOUS | 6 | 93 | 99 |
| CERS - HAZARDOUS | 3 | 66 | 69 |
| TOTAL - ALL SY STEMS | 10 | 288 | 298 |
| MEMBERS CURRENTLY NOT ACTIVE IN SPRS |  |  |  |
| SERVICE IN | ACTIVE IN OTHER SYSTEM | INACTIVE IN OTHER SYSTEM | TOTAL |
| KERS - NONHAZARDOUS | 13 | 9 | 22 |
| KERS - HAZARDOUS | 7 | 1 | 8 |
| CERS - NONHAZARDOUS | 18 | 11 | 29 |
| CERS - HAZARDOUS | 44 | 4 | 48 |
| TOTAL - ALL SYSTEMS | 82 | 25 | 107 |

STATE POLICE RETIREMENT SYSTEM
RETIRED LIVES SUMMARY
JUNE 30, 2001

|  | MALE LIVES |  | FEMALE LIVES |  | TOTAL |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | MONTHLY |  | MONTHLY |  | M ONTHLY |  |
|  | NUMBER | BENEFITS | NUMBER | BENEFITS | NUMBER | BENEFITS |
| BASIC FORM | 68 | 162,680.44 | 6 | 5,599.34 | 74 | 168,279.78 |
| STRAIGHT LIFE (OLD PLAN) | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| JOINT \& SURVIVOR |  |  |  |  |  |  |
| 100\% TO BENEFICIARY | 107 | 229,688.83 | 1 | 885.33 | 108 | 230,574.16 |
| 66-2/3\% TO BENEFICIARY | 57 | 151,924.92 | 0 | 0.00 | 57 | 151,924.92 |
| 50\% TO BENEFICIARY | 56 | 135,475.08 | 2 | 1,989.44 | 58 | 137,464.52 |
| POP-UP OPTION | 186 | 488,449.17 | 1 | 519.18 | 187 | 488,968.35 |
| 10 YEARS CERTAIN | 5 | 14,816.15 | 0 | 0.00 | 5 | 14,816.15 |
| 10 YEARS CERTAIN \& LIFE | 22 | 54,358.04 | 0 | 0.00 | 22 | 54,358.04 |
| SOCIAL SECURITY OPTION |  |  |  |  |  |  |
| OPTION C | 34 | 72,899.59 | 1 | 1,688.19 | 35 | 74,587.78 |
| OPTION D | 165 | 345,938.24 | 5 | 3,691.45 | 170 | 349,629.69 |
| OPTION E | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| OPTION F | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| DEPENDENT CHILD | 8 | 2,081.00 | 4 | 1,073.07 | 12 | 3,154.07 |
| REFUND | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 15 YEARS CERTAIN \& LIFE | 10 | 21,371.15 | 0 | 0.00 | 10 | 21,371.15 |
| 20 YEARS CERTAIN \& LIFE | 25 | 54,241.14 | 4 | 3,342.14 | 29 | 57,583.28 |
| 5 YEARS ONLY | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| TOTAL | 743 | 1,733,923.75 | 24 | 18,788.14 | 767 | 1,752,711.89 |
|  |  |  |  |  |  |  |

STATE POLICE RETIREMENT SYSTEM
BENEFICIARY SUMMARY
JUNE 30, 2001

|  | MALE LIVES |  | FEMALE LIVES |  | TOTAL |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | NUM BER | MONTHLY BENEFITS | NUM B ER | MONTHLY BENEFITS | NUMBER | MONTHLY BENEFITS |
|  |  |  |  |  |  |  |
| BASIC FORM | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| STRAIGHT LIFE (OLD PLAN) | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| JOINT \& SURVIVOR |  |  |  |  |  |  |
| 100\% TO BENEFICIARY | 3 | 4,236.97 | 45 | 88,659.27 | 48 | 92,896.24 |
| 66-2/3\% TO BENEFICIARY | 0 | 0.00 | 1 | 1,167.87 | 1 | 1,167.87 |
| 50\% TO BENEFICIARY | 1 | 997.32 | 8 | 10,492.70 | 9 | 11,490.02 |
| POP-UP OPTION | 0 | 0.00 | 6 | 15,094.36 | 6 | 15,094.36 |
| 10 YEARS CERTAIN | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 10 YEARS CERTAIN \& LIFE | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| SOCIAL SECURITY OPTION |  |  |  |  |  |  |
| OPTION C | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| OPTION D | 0 | 0.00 | 7 | 15,508.27 | 7 | 15,508.27 |
| OPTION E | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| OPTION F | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| DEPENDENT CHILD | 1 | 248.81 | 0 | 0.00 | 1 | 248.81 |
| REFUND | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 15 YEARS CERTAIN \& LIFE | 1 | 2,990.97 | 0 | 0.00 | 1 | 2,990.97 |
| 20 YEARS CERTAIN \& LIFE | 0 | 0.00 | 2 | 7,270.97 | 2 | 7,270.97 |
| 5 YEARS ONLY | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| TOTAL | 6 | $\begin{array}{r} 8,474.07 \\ S- \end{array}$ | 69 | 138,193.44 | 75 | 146,667.51 |

STATE POLICE RETIREMENT SYSTEM VESTED RETIREMENT SUMMARY

JUNE 30, 2001

| AGE NEARESTBIRTHDAY | MALE LIVES |  | FEMALE LIVES |  | TOTAL |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | MONTHLY |  | MONTHLY |  | MONTHLY |
|  | NUMBER | BENEFITS | NUMBER | BENEFITS | NUMBER | BENEFITS |
| 15-19 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 20-24 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 25-29 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 30-34 | 2 | 837.44 | 0 | 0.00 | 2 | 837.44 |
| 35-39 | 3 | 1,007.34 | 1 | 279.99 | 4 | 1,287.33 |
| 40-44 | 4 | 2,442.56 | 0 | 0.00 | 4 | 2,442.56 |
| 45-49 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 50-54 | 2 | 996.05 | 0 | 0.00 | 2 | 996.05 |
| 55-59 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 60-64 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 65-69 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 70-74 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 75-79 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 80-84 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| $85+$ | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| TOTAL | 11 | 5,283.39 | 1 | 279.99 | 12 | 5,563.38 |

## VESTED MEMBERSHIP SUMMARY

JUNE 30, 2001

| $\begin{array}{r} \text { AGE NEAREST } \\ \text { BIRTHDAY } \\ \hline \end{array}$ | MALE LIVES |  | FEMALE LIVES |  | TOTAL |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | ACCUMULATED |  | ACCUMULATED |  | ACCUMULATED |
|  | NUMBER | CONTRIBUTIONS | NUMBER | CONTRIBUTIONS | NUMBER | CONTRIBUTIONS |
| 15-19 | 8 | 562.32 | 0 | 0.00 | 8 | 562.32 |
| 20-24 | 2 | 774.87 | 0 | 0.00 | 2 | 774.87 |
| 25-29 | 13 | 21,192.76 | 2 | 73.90 | 15 | 21,266.66 |
| 30-34 | 21 | 22,687.63 | 1 | 15.39 | 22 | 22,703.02 |
| 35-39 | 16 | 5,527.88 | 3 | 2,727.88 | 19 | 8,255.76 |
| 40-44 | 5 | 3,450.23 | 1 | 390.78 | 6 | 3,841.01 |
| 45-49 | 4 | 3,704.33 | 0 | 0.00 | 4 | 3,704.33 |
| 50-54 | 2 | 7,363.10 | 0 | 0.00 | 2 | 7,363.10 |
| 55-59 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 60-64 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 65-69 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 70-74 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 75-79 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 80-84 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| $85+$ | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| TOTAL | 71 | 65,263.12 | 7 | 3,207.95 | 78 | 68,471.07 |

## SECTION VI

## SUMMARY OF PRINCIPAL PLAN PROVISIONS

## Effective Date

The state of Kentucky established the State Police Retirement System in July, 1958. The plan benefits have been improved several times, most recently as of August 1, 2001.

## Plan Year

A plan year is a twelve month period beginning on July 1.

## Final Compensation

Final compensation is the average salary during the three highest paid fiscal years.

## Service

Service means the sum of prior service and current service as defined below:
(a) Prior service is credited for regular full-time employment of at least 100 hours of work per month with a participating agency before July 1, 1958. In some instances prior service credit is granted for time spent in the military.
(b) Current service is obtained for regular full-time employment which averages at least 100 hours of work per month with participating agencies after July 1, 1958. Current service credit may be granted for military service and educational leaves if special criteria are met.
(c) Service is increased by unused sick leave, up to a maximum of six months, for purposes of computing eligibility and the amount of benefits.

## Eligibility

The Bureau of State Police shall participate in the System. Membership in the system consists of all regular full-time officers of the Kentucky State Police who are entitled to exercise the powers of police officers.

## Normal Retirement Date

A member may elect to retire upon attaining age 55 and having contributed to the System. Upon completion of 20 years of service credit, 15 of which are current service, a member may declare the normal retirement date to be some date prior to age 55.

## Early Retirement Date

A member may elect to retire before the normal retirement date at any time after attainment of age 50 and completion of 15 years of service credit.

## Normal Retirement Benefits

A monthly benefit equal to $2.50 \%$ of the member's final compensation multiplied by his service will be payable upon attainment of age 55 and completion of 60 months of service of which 12 months are current service. A member who retires on or after the normal retirement date with less than 60 months of service is entitled to a retirement allowance which pays the actuarial equivalent of twice the member's accumulated contributions for life.

## Early Retirement Benefits

A member who elects early retirement is entitled to a monthly benefit reduced for each month by which the early retirement date precedes the first date on which the member would qualify for an unreduced benefit. If a member has 20 or more years of service credit ( 15 of which are current), an unreduced benefit is payable.

## Disability Benefits

A member with 60 months of service, 12 of which must be current service, is entitled to a retirement allowance computed in the same manner as the normal retirement benefit with service and final compensation determined as of the disability date. Service credit shall be added on to total service for the period from the last day of paid employment to the 55th birthday up to a maximum of service credited to the last day of paid employment. Except for members with 20 or more years of service on the last day of paid employment, the maximum combined service credit (total service and added service) shall not exceed 20 years. For members with 20 or more years of service credit, actual service will be used. The retirement benefit shall not be less than $25 \%$ of the member's final monthly rate of pay for those disabled in the line of duty. Ten percent of final monthly rate of pay for each dependent child is also payable if disability occurs in line of duty. The maximum dependent child's benefit is $40 \%$ of the member's final monthly rate of pay. A partial disability benefit may be payable if the disability is not total and permanent. The disability will be reduced to a rate determined by the Board.

## Death Benefits

If a member dies prior to retirement, but after 60 months of service, 12 of which are current and who is a contributing member, or after 12 years of service, one of which is current and who is not a contributing member, a benefit will be payable to the beneficiary based on the member's age, years of
service and final compensation at the date of death. The benefit will be equal to the amount payable had the employee retired and elected a joint and $100 \%$ survivorship payment form.

If a member dies in the line of duty and has a spouse as beneficiary, a $\$ 5,000$ lump sum payment will be made and a benefit of $25 \%$ of the member's final monthly rate of pay will be payable until death or remarriage. If the member dies in the line of duty and has a dependent as beneficiary, a lump sum payment of $\$ 10,000$ will be made. Monthly payments shall be made for each dependent child equal to $10 \%$ of the member's final monthly rate of pay, but not greater than $40 \%$ of the member's final monthly rate of pay. The beneficiary of a member with 5 or more years of service, one of which is current, may elect a death benefit computed in the same manner as a non-hazardous employee under KERS and CERS, using $2.50 \%$ rather than the non-hazardous benefit rate.

Upon the death of a retired member, who had a minimum of 48 months of service credit, a death benefit of $\$ 5,000$ is payable.

## Optional Forms of Payment

Joint and survivor annuities which provide a reduced benefit for the life of the member, with the benefit at the same or at a further reduced rate continuing after the member's death until the death of the designated beneficiary may be elected by the member prior to retirement. Other optional forms include an annuity with 10,15 or 20 years of payments guaranteed and a Social Security adjustment with or without survivor rights.

## Contributions

Members contribute $8 \%$ of gross compensation until age 55. On each June 30, interest is credited at the rate to be determined by the Board on the accumulated contributions the member had in his account on the previous June 30. Upon termination a member may withdraw the contributions with interest, but will be entitled to no benefit payments.

## Medical Insurance

Recipients of a retirement benefit may elect to participate in a voluntary hospital/medical group insurance plan for themselves as well as any beneficiaries or dependents. The retirement system will pay a portion of the cost of participation for the retiree and dependents based on years of service credit as follows:

| Less than 4 years | $0 \%$ |
| :--- | ---: |
| $4-9$ years | $25 \%$ |
| $10-14$ years | $50 \%$ |
| $15-19$ years | $75 \%$ |
| 20 or more years | $100 \%$ |

If a member is disabled in the line of duty, the retirement system will pay $100 \%$ of the cost of the member, spouse and eligible dependents. If a member is killed in the line of duty, the retirement system will pay $100 \%$ of the cost of the beneficiary and eligible dependents as long as they remain eligible for a monthly benefit payment.

## Increase in Retirement Allowances

Effective August 1, 1996, and on July 1 of each year thereafter, a recipient of a retirement allowance shall have his retirement allowance increased by the percentage increase in the annual average of the consumer price index for all urban consumers for the most recent calendar year as published by the federal Bureau of Labor Statistics, not to exceed five percent (5\%). In determining the annual employer contribution rate, only the cost of increases granted as of the most recent valuation date shall be recognized. The benefits of this subsection as provided on August 1, 1996 and thereafter shall not be considered as benefits protected by the inviolable contact provisions of KRS 61.692, 16.652 , and 78.852 . The General Assembly reserves the right to suspend or reduce the benefits conferred in this subsection if in their judgment the welfare of the Commonwealth so demands.


[^0]:    * Cash flows are assumed equally spread throughout the year.

