

# Teachers' Retirement System of the State of Kentucky



## The 73<sup>rd</sup> Comprehensive Annual Financial Report

A Component Unit of the Commonwealth of Kentucky  
Fiscal Year Ended June 30, 2013

Kentucky Teachers' Retirement System  
479 Versailles Road  
Frankfort, Kentucky 40601-3800

**GARY L. HARBIN, CPA**  
Executive Secretary

---

This report was prepared by the  
Teachers' Retirement System staff.

**TABLE OF CONTENTS**

**~ INTRODUCTORY SECTION ~**

Chairperson’s Letter .....	2
Letter of Transmittal .....	3
Board of Trustees .....	9
Administrative Staff and Professional Consultants .....	10
Organizational Chart .....	11
GFOA Certificate of Achievement .....	12
PPCC Achievement Award .....	13

**~ FINANCIAL SECTION ~**

Independent Auditor’s Report .....	16
Management’s Discussion & Analysis .....	18
Basic Financial Statements	
Statement of Plan Net Position .....	22
Statement of Changes in Plan Net Position .....	24
Combining Statement of Plan Net Position - Other Funds .....	26
Combining Statement of Changes in Plan Net Position - Other Funds .....	26
Notes to Financial Statements .....	28
Required Supplemental Information	
Schedule of Funding Progress .....	50
Schedule of Employer Contributions .....	51
Supporting Schedules	
Schedule of Administrative Expenses .....	52
Schedule of Professional Fees .....	52
Schedule of Contracted Management Expenses .....	53
Independent Auditor’s Report on Internal Control & Compliance .....	54

**~ INVESTMENT SECTION ~**

Report on Investment Activity .....	56
Consultant Letter .....	57
Retirement Annuity Trust Fund	
Investment Policy and Objectives .....	58
Risk Controls .....	58
Asset Allocation .....	58
Distribution of Investments .....	60
Asset Class Allocation Ranges .....	61
Portfolio Returns .....	62
Fixed Income Investments .....	63
Equity Investments .....	65
Real Estate Investments .....	66
Alternative Assets .....	67
Portfolios Fair Values .....	70

Investment Summary .....	72
Contracted Investment Management Expenses .....	72
Ten Largest Stock Holdings .....	73
Top Ten Fixed Income Holdings .....	73
Transaction Commissions .....	74
Proxy Voting and Corporate Behavior .....	76
Security Lending .....	76
Kentucky Investments .....	77
Professional Service Providers .....	77
Health Insurance Trust Fund	
Investment Policy and Objectives .....	78
Risk Controls .....	78
Asset Allocation .....	79
Distribution of Investments .....	79
Portfolio Returns .....	80
Portfolios Fair Values .....	81
Investment Summary .....	81
Contracted Investment Management Expenses .....	82
Professional Service Providers .....	82

~ ACTUARIAL SECTIONS ~

**Actuarial Annual Valuation**

Actuary's Certification Letter .....	84
Summary of Principal Results .....	86
Membership Data .....	88
Assets .....	89
Comments on Valuation .....	89
Contributions Payable Under the System .....	89
Comments on Level of Funding .....	92
Analysis of Financial Experience .....	93
Accounting Information .....	94
Valuation Balance Sheet .....	96
Solvency Test .....	97
Actuarial Value of Assets .....	97
Summary of Receipts and Disbursements .....	98
Outline of Actuarial Assumptions and Methods .....	99
Actuarial Cost Method .....	101
Summary of Main System Provisions as Interpreted for Valuation Purposes .....	101
Table of Distribution of Active Members .....	105
Table of Retired Members and Beneficiaries .....	106
Schedule of Retirants, Beneficiaries, and Survivors	
Added to and Removed from Rolls .....	106

**Actuarial Medical and Life Insurance Valuation**

Actuary's Certification Letter .....	108
Summary of Principal Results .....	110
Membership Data .....	112
Assets .....	113
Comments on Valuation .....	113
Derivation of Experience Gains and Losses .....	114

**TABLE OF CONTENTS**

---

Contributions Payable Under the System ..... 114  
 Comments on Level of Funding ..... 116  
 Accounting Information ..... 116  
 Schedule of Funding Progress ..... 117  
 Valuation Balance Sheet ..... 120  
 Solvency Test ..... 120  
 Summary of Receipts and Disbursements ..... 123  
 Outline of Actuarial Assumptions and Methods ..... 124  
 Summary of Main Plan Provisions as Interpreted for Valuation Purposes ..... 130  
 Table of Distribution of Active Members ..... 134  
 Schedule of Active Member Valuation ..... 135  
 All Retirees and Spouses Receiving Health Benefits ..... 136  
 Schedule of Retirants, Beneficiaries, and Survivors  
     Added to and Removed from Rolls ..... 136

**Additional Report on GASB Statement Number 67**

Actuary's Letter ..... 140  
 Notes to the Financial Statements ..... 142  
 Required Supplementary Information  
     Schedules of Changes in Employers' Net Pension Liability ..... 145  
     Schedules of Employers' Net Pension Liability ..... 147  
     Schedule of Employer Contributions ..... 148  
     Notes to Required Supplementary Information ..... 148

**~ STATISTICAL SECTION ~**

Defined Benefit Plan  
     Additions by Source ..... 151  
     Deductions by Type ..... 151  
     Changes in Net Assets ..... 151  
 Medical Insurance Plan  
     Additions by Source ..... 152  
     Deductions by Type ..... 152  
     Changes in Net Assets ..... 152  
 Life Insurance Plan  
     Additions by Source ..... 153  
     Deductions by Type ..... 153  
     Changes in Net Assets ..... 153  
 Distribution of Active Contributing Members ..... 153  
 Principal Participating Employers ..... 154  
 KTRS Schedule of Participating Employers ..... 154  
 Geographical Distribution of Retirement and Medical Payments Worldwide ..... 156  
 Geographical Distribution of Retirement and Medical Payments Statewide ..... 157  
 Growth in Annuitants ..... 158  
 Schedule of KTRS Annuitants by Type of Benefit ..... 159  
 Defined Benefit Plan Average Benefit Payments for the Past Ten Years ..... 160  
 Medical Insurance Plan Average Premium  
     Supplements for the Past Ten Years ..... 161  
 Summary of Retiree Sick Leave Payments ..... 162  
 Funding of Additional Payments ..... 162

---

# Introductory Section

---

for Fiscal Year ending June 30, 2013

## Chairperson's Letter

### Teachers' Retirement System of the State of Kentucky

GARY L. HARBIN, CPA  
*Executive Secretary*



December 30, 2013

Dear Members:

On behalf of the Board of Trustees and staff, I am pleased to present this Comprehensive Annual Financial Report of the Teachers' Retirement System of the State of Kentucky for the year ending June 30, 2013, the 73rd year of operation of the System. The accompanying reports from the independent auditor and the consulting actuary substantiate the financial integrity and the actuarial soundness of the system.

KTRS closed the 2012-2013 fiscal year with a net position of \$16.6 billion. The active membership totaled 74,831 and the retired membership was 47,406 with an annual annuity and medical insurance benefits of \$1.8 billion.

The Board of Trustees is totally committed to managing the retirement system funds in a prudent, professional manner. Every effort will be made to ensure that the system continues to operate in a fiscally sound manner. Present and future members of the system deserve to be able to avail themselves of the best possible retirement as authorized by statute.

We appreciate the support and cooperation extended by the Governor and the Legislature. This cooperation allows the system to not only meet current challenges but to also make timely provisions for the future.

The Board of Trustees pledges to continue to administer the affairs of the Kentucky Teachers' Retirement System in the most competent and efficient manner possible.

Sincerely,



Dr. Tom Shelton  
Chairperson  
Board of Trustees

#### BOARD OF TRUSTEES

DR. TOM SHELTON  
CHAIRPERSON  
LEXINGTON

LAURA ZIMMERMAN  
VICE CHAIRPERSON  
LEXINGTON

ARTHUR GREEN  
ELKTON

HOLLIS GRITTON  
UNION

JAY MORGAN, PH.D.  
MURRAY

RONALD L. SANDERS  
HODGENVILLE

RUTH ANN SWEAZY  
TAYLORSVILLE

*EX OFFICIO*  
DR. TERRY HOLLIDAY  
COMMISSIONER  
DEPARTMENT  
OF EDUCATION

*EX OFFICIO*  
TODD HOLLENBACH  
STATE TREASURER

## Letter of Transmittal



### Teachers' Retirement System of the State of Kentucky

December 30, 2013

Honorable Steven L. Beshear, Governor  
Commonwealth of Kentucky  
Capitol Building  
Frankfort, Kentucky

Dear Governor Beshear:

It is my pleasure to submit the 73rd Comprehensive Annual Financial Report of the Teachers' Retirement System of the State of Kentucky, a Component Unit of the Commonwealth of Kentucky, for the fiscal year ended June 30, 2013. State law provides the legal requirement for the publication of this report; in addition, an annual audit and an annual actuarial valuation of the retirement system are also required. Kentucky Teachers' Retirement System (KTRS) has produced an annual report that will provide you, the General Assembly, and the general public, with information necessary to gain a better understanding of KTRS.

This report has been prepared in conformity with the principles of governmental accounting and generally accepted accounting principles. Responsibility for both the accuracy of the data and the completeness and fairness of the presentation, including all disclosures, rests with KTRS management. To the best of our knowledge and belief, the enclosed data is accurate in all material aspects and reported in a manner designed to present fairly the financial position and results of operations of KTRS for the year ended June 30, 2013. Discussion and analysis of net assets and related additions and deductions is presented in Management's Discussion and Analysis beginning on page 18.

Management is responsible for maintaining a system of internal controls to establish reasonable

assurance that assets are safeguarded, transactions are accurately executed and financial statements are fairly presented. There are limits inherent in all systems of internal control based on the recognition that the costs of such systems should be related to the benefits to be derived.

Management believes the System's controls provide this appropriate balance. The system of internal controls includes policies and procedures and an internal audit department that reports to the Executive Secretary and the Governance and Audit Committee of the Board of Trustees.

#### Profile of KTRS

KTRS began operations on July 1, 1940 as a cost-sharing multiple-employer defined benefit plan. The primary purpose of the plan is to provide retirement annuity plan coverage for local school districts and other public educational agencies in the state. KTRS is a blended component unit of the Commonwealth of Kentucky. The plan is described in the notes to the basic financial statements on page 28. Also, the summary of the plan provisions starting on page 101 is useful in understanding benefit and contribution provisions. The population of KTRS membership is stated in the preceding chairperson's letter.

Each year an operating budget is prepared for the administration of the retirement system. The budget is approved by the Board of Trustees and submitted to the Kentucky General Assembly for legal adoption. The KTRS investment earnings fund the administrative budget appropriations.

#### Major Initiatives

The System continually seeks opportunities to better serve its membership. During the past year, KTRS has continued work on several major initiatives concerning funding and cost containment for retiree health care, the investment program, and information technology.

#### *Implementation of the "Shared Responsibility" Solution for Funding Retiree Health Care and Careful Management of Medical Insurance Costs*

June 30, 2013 marked the end of the third year of the six year phase in of the "shared responsibility" solution for pre-funding retired teacher health care. The Board of Trustees and

Staff are very pleased to report that \$3.1 billion in actuarial liability has been eliminated from the retired teacher health care plan through implementation of this solution. Another \$1.9 billion savings in actuarial liability was accomplished through careful management of health care costs. Thus, since implementing “shared responsibility” and other cost control measures, more than \$5 billion in actuarial accrued liability has been eliminated from the KTRS Medical Insurance Fund.

The Governor and Legislative leaders have commended Kentucky’s education community for their strong leadership and hard work in developing and implementing the solution. Constituent groups representing retired teachers, active teachers, school boards, school superintendents, and the state, all worked on the consensus funding solution. The solution provides that all the groups share in the solution by investing a little more now to receive substantial returns later. After two years, and \$3.1 billion in savings by converting to a pre-funded plan, the “shared responsibility” solution is truly a significant accomplishment on the road to retirement security for current and future retired teachers.

The Board of Trustees of KTRS regularly reviews the health care plan to contain costs and maintain a meaningful benefit for retired teachers. The move to Medicare Advantage, now in our eighth year, continues to be stable and financially feasible for our members and the KTRS medical plan.

Some recent cost saving initiatives include moving the KTRS sponsored Medicare drug plan to an insured Employer Group Waiver Prescription Drug Plan with a commercial wrap in the drug coverage gap to achieve the greatest amount of federal subsidies for 2013. Additionally, KTRS joined the KY Rx Coalition in 2012, which is spearheaded by the University of Kentucky. By joining the coalition, KTRS will achieve annual savings through leveraging greater prescription purchasing power and deeper drug discounts. As an added benefit, a dedicated staff of pharmacists with the KY Rx Coalition can help each member with their prescriptions and how to maximize their prescription dollars.

Other cost containment measures implemented in 2013 involved the elimination of the future risk

of adverse selection with our Medicare eligible spouses of retired teachers; and assisting those retirees and their spouses who were Medicare eligible, but under the normal Medicare age, to join the Medicare plan in 2013 achieving future savings for our members, the KTRS retiree medical plan, and the Commonwealth of Kentucky. KTRS is utilizing the industry best practice of a high performance formulary for 2014 with the Medicare Eligible retiree drug plan. The high performance formulary greatly incents participants to use lower cost brand and generic alternatives when clinically appropriate.

For 2014, the Board contracted with Edumedics for disease management services for Medicare Eligible retirees with diabetes, hypertension, hyperlipidemia, and other co-morbidity diseases. The Board of Trustees has been studying chronic disease management for several years and selected Edumedics to implement the disease management program. Edumedics is a Kentucky based company spun out from the University of Louisville.

Edumedics will be educating retirees with these diseases about nutrition, drug regime, exercise, and other matters. These educational efforts will be ongoing with routine face-to-face checkups with participating retirees. Edumedics will monitor adherence to a nutrition and wellness plan developed by the participating retiree, the retiree’s physician, and Edumedics. This effort will ramp up over the next two years and thereafter the Board will likely expand this program to other chronic diseases.

KTRS is efficient, effective, and always working to improve the retirement security of Kentucky’s teachers. Eliminating more than \$5 billion in liability helps the financial condition of the Commonwealth and eases burdens on taxpayers.

### *Investment Program*

For the twelve month period ended June 30, 2013, KTRS’s investment program produced a total return of 14.1%. This ranked in the top 10% of returns for pension funds with over \$1 billion in assets. During the period including the last five years, KTRS’s investment returns ranked in the top 7%. Moreover, during the last thirty years, KTRS investment returns have averaged 8.9%, which is consistent with the long-term assumed rate of return of 7.5%.



Because of KTRS's focus on fundamental value and risk control, it was able to continue a multiyear program of broadening the portfolio's diversification. KTRS also continued to implement changes to the investment program based upon an asset liability modeling study and an analysis of the shared responsibility solution for funding retiree health care and receipt of the proceeds of bonds in the KTRS retirement annuity and medical insurance funds. These ongoing efforts are a continuation of a disciplined investment process and long term focus on retirement security. This focus has generated exceptionally stable returns through the System's history and we have every confidence that it will do so in the future. KTRS's investment program continues to be recognized as a leader in the public pension community for governance structure, trustee education, and cost effectiveness.

***Information Technology***

KTRS staff has continued working on a multi-year project planning, designing, and constructing a new information technology system known as the "Pathway System." The Board took action and authorized hiring a vendor to begin building and installation of the new system. The vendor has been working with staff on-site at KTRS since September 2011. The focus of work has been developing and constructing the first major component of the new system.

On July 15, 2013, the first major component of the new system (member enrollment, employer reporting, service credit purchases, and related accounting functions), was put into production. The implementation was highly successful. To date, more than 54% of the overall project has been completed and work has been proceeding according to schedule and within budget.

The objective of the Pathway System is to streamline retirement processes and improve staff efficiency in providing services to retirees and active members. In developing the Pathway System, KTRS is redesigning and improving office processes and ultimately will be applying new web-based technologies to these processes. This will increase staff productivity, provide seamless member account management, and simplify future system modifications. As KTRS continues to implement changes under the Pathway System,

we expect that the new technology will help the System better serve its membership.

**Economic Condition**

The economic condition of the System is based primarily on investment earnings. The Investment Section of this report starting on page 55 contains asset allocations, strategic target ranges for investments, discussion of the current year market environment and historical performance schedules among others.

The investment portfolio experienced a growth in value during the 2012-2013 fiscal year as the portfolio's market value increased from \$15,132,284,908 to \$16,597,563,301. The increase in value of the portfolio and of the overall market was primarily due to improvements in the financial markets and realized capital gains. This increase was supported with investment income that included interest income and dividends. Employer and employee contributions also provided significant income to the portfolio.

Investment income, including appreciation of asset values, net of investment expenses, for the 2012-2013 fiscal year was \$2,071,260,168. The major contributing factor of the positive return from the System's investment portfolio resulted from the net appreciation in fair value of investments in the amount of \$1,624,371,455. The largest earnings component, \$264,247,210 was the result of interest income. Other income, net of expenses, of \$182,641,503 was generated from dividends, rent and securities lending.

According to the KRS 161.430 the KTRS Board of Trustees has the responsibility to invest the assets of the System. The Board of Trustees delegates investment authority to the Investment Committee. The Investment Committee works closely with experienced investment counselors and the System's professional staff in evaluating and selecting investment allocations.

The investment objectives of the Board of Trustees are to ensure that funds shall be invested solely in the interest of its members and their beneficiaries and that investment income shall be used for the exclusive purpose of providing benefits to the members and their beneficiaries, while making payment of reasonable expenses in administering the Plan and its Trust Funds. The investment program shall also provide a

reasonable rate of total return with major emphasis being placed upon the protection of the invested assets. While the entire portfolio earned a total return of positive 14.1% in 2012-13, the portfolio's ten-year annualized rate of return is 6.4% and the twenty-year annualized rate of return is 7.3%.

KTRS annuities have a bolstering impact on the Commonwealth of Kentucky's economy, as approximately 92% of retired teachers reside within the state. Total benefits (retirement, medical...etc.) paid during the fiscal year were approximately \$1.8 billion.

**Funding**

Based on recommendations of the Board of Trustees, the General Assembly establishes by statute the levels of contribution that are to be made by members and employers to fund the liabilities of the system. Each year, an independent actuary performs a valuation to determine whether the current levels of contribution will be sufficient to cover the cost of benefits earned by members.

Since fiscal year 2008, the state has not paid the recommended annual employer contribution necessary to pre-fund the benefit requirements of members of the retirement system as determined by the actuary. Over this period of time, because of the failure to fund, the state's annual employer contributions have grown significantly from \$60.5 million (Fiscal Year 2009) to \$487 million (Fiscal Year 2016). The following schedule details the growth of the additional annual employer contributions payable by the state:

Fiscal Year	Cumulative Increase as a % of Payroll	Cumulative Increase of Annual Retirement Appropriations Payable by the State
2009	1.88	60,499,800
2010	2.46	82,331,200
2011	3.59	121,457,000
2012	5.81	208,649,000
2013	7.27	260,980,000
2014	8.02	299,420,000
2015	10.42	386,400,000
2016	12.97	487,400,000

The Board has always taken action as required by state law and recommended annual employer contributions payable by the state that would ensure that the state meets the contractual obligations to members.

The latest actuarial valuation was for the period ending June 30, 2013. This report reflects the System's actuarial value of assets totaling \$15.0 billion and actuarial determined liabilities totaling \$28.8 billion. The funded ratio of actuarial assets to liabilities is 51.9%. The actuary reports: "...In our opinion, the System is not being funded on an actuarially sound basis since the actuarially required contributions are not being made by the employer. If contributions by the employer to the System continue to be less than those required, the assets are expected to become insufficient to pay promised benefits. Assuming that contributions to the System are made by the employer from year to year in the future at the rates recommended on the basis of the successive actuarial valuations, the continued sufficiency of the assets to provide the benefits called for under the System may be safely anticipated...."

Annual required employer contributions for the defined benefit plan are provided in the Schedule of Employer Contributions (on page 50). After the 2013 employer contributions there remains a net pension obligation of \$682,450,008 (as detailed on page 95). Annual required employer contributions for the Medical Insurance Fund are provided in the Schedule of Employer Contributions (on page 51). The 2013 employer shortfall of contributions created a net OPEB obligation of \$1,469,685,047 (as detailed on page 118).

The sustained decline in the funded ratio is from the cumulative effect of the employer failing to make actuarially required contributions. Also contributing to the reduced funded ratio are market fluctuations that are being recognized using actuarial smoothing over a five-year period and the changing demographics of the retirement system.

**KTRS Medical Insurance Plan**

The shared responsibility solution for funding retiree health care, which went into effect on July 1, 2010, provides a method of pre-funding retiree health care over a 30 year period. The System believes that the shared responsibility solution for

funding retiree health care will help ensure the retirement security of the state's teachers. An actuarial valuation of the Medical Insurance Plan for the fiscal year ended June 30, 2013 indicated that the fund has an unfunded liability of \$3.1 billion. The funded ratio of actuarial assets to liabilities is 11.7%, which is trending upward from past years. The actuary reports: "...if the State contributions to the Medical Insurance Fund are increased to the planned levels, the Retiree Medical Plan will begin to operate in a more actuarially sound basis. Assuming that required contributions to the Medical Insurance Fund are made by the employer from year to year in the future at the levels required on the basis of the successive actuarial valuations, the actuarial soundness of the Medical Insurance Fund to provide the benefits called for under the Retiree Medical Plan will improve...."

Additionally, the System believes continued steps must be taken to realize true cost containment through legislation on both the state and national levels. KTRS will continue to take measures to contain costs and increase revenues to the Medical Insurance Plan or may adjust coverage to meet existing revenues.

**Professional Services**

Professional consultants are appointed by the Board of Trustees to perform professional services that are essential to the effective and efficient operation of the KTRS. Certifications from the Board's External Auditor and Independent Actuary are enclosed in this report. The System's consultants who are appointed by the Board are listed on pages 52, 53, 77 and 82 of this report.

**National Recognition**

The System was honored by two national professional organizations in regard to the administration of the retirement program.

**GFOA Certificate of Achievement**

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the Teachers' Retirement System of the State of Kentucky for its Comprehensive Annual Financial Report (CAFR) for the fiscal year ended June 30, 2012. The Certificate of Achievement is a prestigious

national award-recognizing conformance with the highest standards for preparation of state and local government financial reports.

In order to be awarded a Certificate of Achievement, a government unit must publish an easily readable and efficiently organized comprehensive annual financial report, whose contents conform to program standards. Such CAFR must satisfy both generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year only. KTRS has received the Certificate of Achievement for the last twenty-five consecutive years (fiscal years ended 1988-2012). We believe our current report continues to conform to the Certificate of Achievement program requirements, and we are submitting it to GFOA.

**PPCC Achievement Award**

The Public Pension Coordinating Council (PPCC) awarded a Certificate of Achievement to the Teachers' Retirement of the State of Kentucky for 2013 for implementing and maintaining high professional standards in administering the affairs of the System. The award is based on compliance with principles judged to underlie exemplary retirement system achievements in the areas of benefits, actuarial valuation, financial reporting, investments and disclosure, and are widely acknowledged to be marks of excellence in the public pension industry.

In 2013, for the second consecutive year, KTRS was not awarded the PPCC Certificate of Achievement for funding. Failure to qualify for the award reflects the employer's continued underfunding of KTRS's retirement annuity plan.

The PPCC is a coalition of three national associations that represent public retirement systems and administrators. Combined, these associations serve retirement systems that provide pension coverage for most of the nation's 16 million employees of state and local government. The associations that form the PPCC are the National Association of State Retirement Administrators; the National Council on Teacher Retirement; and the National Conference on Public Employee Retirement Systems.

### NCTR Executive Committee

Gary L. Harbin is a former president of the National Council on Teacher Retirement (NCTR). NCTR is a national, nonprofit organization whose mission is to promote effective governance and benefits administration in state and local public pension systems in order that adequate and secure retirement benefits are provided to educators and other plan participants. NCTR membership includes 69 state, territorial, local and university pension systems with combined assets in excess of \$2 trillion, serving more than 18 million active and retired teachers, non-teaching personnel and other public employees.

### Public Sector HealthCare Roundtable

Mr. Harbin also serves on the Board of Directors and as President of the Public Sector HealthCare Roundtable. The Roundtable is a national coalition of public sector health care purchasers that was formed to ensure that the interests of the public sector were properly represented during the formulation and debate, and now implementation of the Patient Protection and Affordable Care Act. Membership in the Roundtable is open to any statewide, regional or local governmental unit that provides health care coverage for public employees and retirees.

### **Our Gratitude**

At the regular quarterly meeting of the Board of Trustees on June 17, 2013, Ms. Barbara G. Sterrett announced that her term on the Board would conclude on June 30, 2013. Ms. Sterrett served with distinction on the Board as an Active Teacher Trustee from July 1, 1990 through June 30, 2003, and as a Retired Teacher Trustee from July 1, 2005 through June 30, 2013. She served as Chair of the Board from July 1, 2008 through June 30, 2012 and as Vice Chair of the Board from July 1, 2006 through June 30, 2008. During her service assets under management increased from \$3.75 billion in 1990 to \$16.58 billion in 2013. During Ms. Sterrett's tenure as Chair of the Board, the retirement system secured long-term funding and cost reductions of retiree health care that reduced the unfunded liability of the retirement system by over \$5 billion. We would like to thank Ms. Sterrett for her exemplary service and numerous contributions to the successful operation of the system.

At the regular quarterly meeting of the Board of Trustees on June 17, 2013, Mr. Charles Ludwig announced that his term on the Board would conclude on June 30, 2013. Mr. Ludwig served with distinction on the Board as an Active Teacher Trustee from March 21, 2011 through June 30, 2013. During his tenure on the Board, the retirement system implemented the "Shared Responsibility" solution to pre-fund medical insurance benefits for retired Kentucky educators. We would like to thank Mr. Ludwig for his exemplary service and numerous contributions to the successful operation of the system.

### **Acknowledgments**

The preparation of this report reflects the combined efforts of the KTRS staff, under the leadership of the Board of Trustees. The report is intended to provide complete and reliable information that serves as a basis for making management decisions and for determining compliance with legal provisions. It is also used to determine responsible stewardship of the assets contributed by KTRS members and their employers.

This report is located at the KTRS web address [www.ktrs.ky.gov](http://www.ktrs.ky.gov), and is made available to all employers whose cooperation continues to contribute significantly to our success, and who form the vital link between KTRS and its active members.

KTRS management and staff are committed to the continued operation of an actuarially sound retirement system. Your support is an essential part of this commitment, and we look forward to working with you.

Respectfully submitted,



Gary L. Harbin, CPA  
Executive Secretary

**BOARD OF TRUSTEES**



**Dr. Tom Shelton**  
Chairperson  
Teacher Trustee  
Lexington



**Laura Zimmerman**  
Vice Chairperson  
Teacher Trustee  
Lexington



**Arthur Green**  
Retired Teacher Trustee  
Elkton



**Hollis Gritton**  
Lay Trustee  
Union



**Jay Morgan, Ph.D.**  
Teacher Trustee  
Murray



**Ronald L. Sanders**  
Lay Trustee  
Hodgenville



**Ruth Ann Sweazy**  
Teacher Trustee  
Taylorsville



**Dr. Terry Holliday**  
Ex Officio Trustee  
Commissioner,  
Dept. of Education



**Todd Hollenbach**  
Ex Officio Trustee  
State Treasurer

**Kentucky Teachers' Retirement System**

479 Versailles Road  
Frankfort, Kentucky 40601-3800

**ADMINISTRATIVE STAFF**

**GARY L. HARBIN, CPA**

*Executive Secretary*

**ROBERT B. BARNES, JD**

*General Counsel and  
Deputy Executive Secretary  
Operations*

**J. ERIC WAMPLER, JD**

*Deputy Executive Secretary  
Finance & Administration*

**PAUL L. YANCEY, CFA**

*Chief Investment Officer*

**PROFESSIONAL CONSULTANTS**

**ACTUARY**

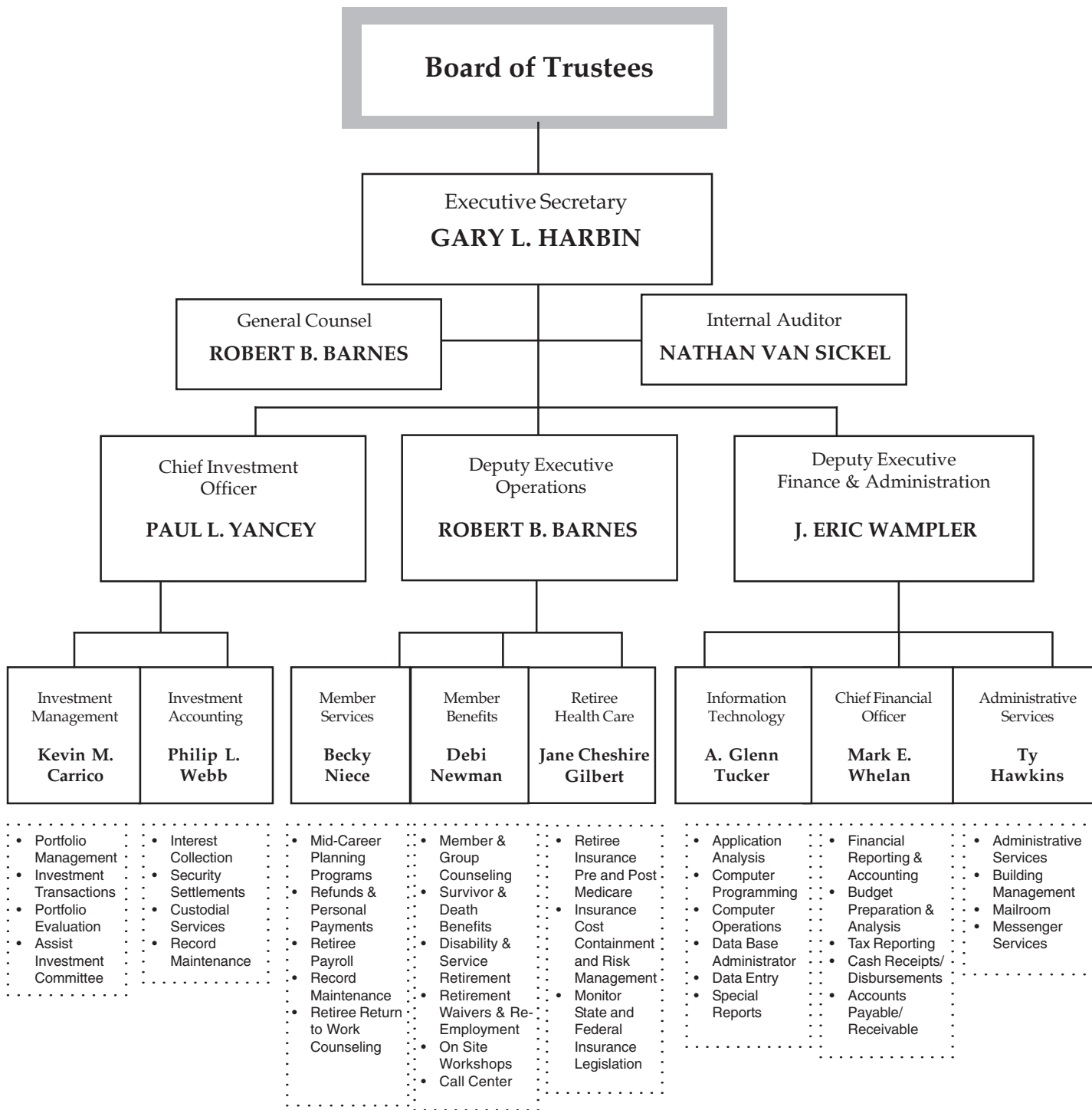
Cavanaugh Macdonald Consulting, LLC  
3550 Busbee Parkway, Suite 250  
Kennesaw, GA 30144

**AUDITOR**

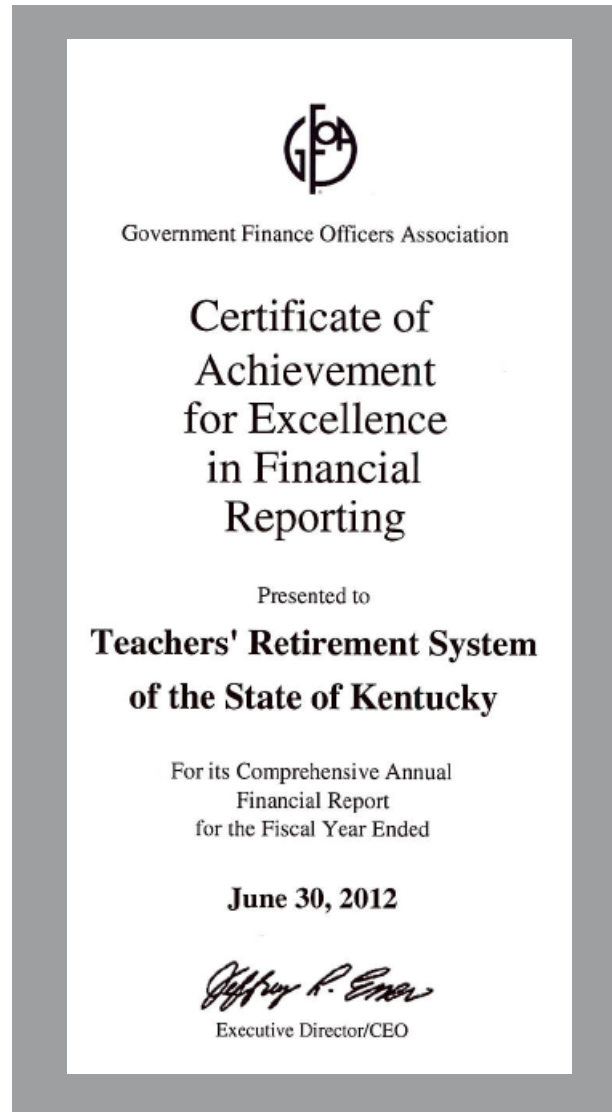
Mountjoy Chilton Medley LLC  
1000 Bluegrass Corporate Center  
333 West Vine Street  
Lexington, KY 40507

*\* See pages 77 and 82 of the Investment  
Section for investment consultants.*

## Kentucky Teachers' Retirement System Organizational Chart



## GOVERNMENT FINANCIAL OFFICERS ASSOCIATION (GFOA)



*The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the Teachers' Retirement System of the State of Kentucky. The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the Teachers' Retirement System of the State of Kentucky. The KTRS has received the Certificate of Achievement for the last twenty-five consecutive years (fiscal years ended 1988-2012).*



**PUBLIC PENSION COORDINATING COUNCIL  
PUBLIC PENSION STANDARDS**



**Public Pension Coordinating Council  
Public Pension Standards  
2013 Award**

Presented to

**Kentucky Teachers' Retirement System**

In recognition of meeting professional standards for  
plan design and administration as  
set forth in the Public Pension Standards.

*Presented by the Public Pension Coordinating Council, a confederation  
of*

National Association of State Retirement Administrators (NASRA)  
National Conference on Public Employee Retirement Systems (NCPERS)  
National Council on Teacher Retirement (NCTR)

A handwritten signature in cursive script that reads "Alan H. Winkle".

Alan H. Winkle  
Program Administrator

*The Public Pension Coordinating Council awarded a Certificate of Achievement to the Teachers' Retirement System of the State of Kentucky for 2013 for implementing and maintaining high professional standards in administering the affairs of the System. The award is based on compliance with principles judged to underlie exemplary retirement system achievements in the areas of benefits, actuarial valuation, financial reporting, investments and disclosure and are widely acknowledged to be marks of excellence for retirement systems. It represents the highest standards of excellence in the public pension industry.*

*This page was intentionally left blank.*

---

# Financial Section

---

for Fiscal Year ending June 30, 2013



Mountjoy  
Chilton  
Medley

**Independent Auditor’s Report on Financial Statements**

To the Board of Trustees  
Teachers' Retirement System of the State of Kentucky  
Frankfort, Kentucky

**Report on the Financial Statements**

We have audited the accompanying statements of the plan net position of the Teachers’ Retirement System of the State of Kentucky as of and for the years ended June 30, 2013 and 2012, and the related statements of changes in plan net position for the years then ended, and the related notes to the financial statements which collectively comprise the component unit financial statements of the Teachers’ Retirement System of the State of Kentucky as listed in the table of contents.

**Management's Responsibility for the Financial Statements**

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

**Auditor's Responsibility**

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor’s judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity’s preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity’s internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

**Opinion**

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective plan net position of the Teachers’ Retirement System of the State of Kentucky, a component unit of the Commonwealth of Kentucky, as of June 30, 2013 and 2012, and the respective changes in its plan net position for the years then ended in conformity with accounting principles generally accepted in the United States of America.

**Louisville**  
2000 Meidinger Tower  
462 South Fourth Street  
Louisville, KY 40202

**Lexington**  
175 East Main Street  
Suite 200  
Lexington, KY 40507

**Frankfort**  
150 Flynn Avenue, Suite 100  
P.O. Box 5630  
Frankfort, KY 40602

**Cincinnati**  
1440 PNC Center  
201 East Fifth Street  
Cincinnati, OH 45202

888.587.1719 | www.mcmcpa.com  
An Independent Member of Baker Tilly International

**Other Matters***Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages 18 through 21 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

*Other Information*

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Teachers' Retirement System of the State of Kentucky's basic financial statements. The financial section and supporting schedules listed in the table of contents are presented for purposes of additional analysis and are not a required part of the basic financial statements. These schedules are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the information is fairly stated in all material respects in relation to the financial statements as a whole. The introductory, statistical, investment, actuarial, and financial sections have not been subjected to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we do not express an opinion or provide any assurance on them.

**Other Reporting Required by Government Auditing Standards**

In accordance with *Government Auditing Standards*, we have also issued our report dated December 16, 2013, on our consideration of the Teachers' Retirement System of the State of Kentucky's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Teachers' Retirement System of the State of Kentucky's internal control over financial reporting and compliance.

Mountjoy Chilton Medley LLP



Lexington, KY  
December 16, 2013

TEACHERS' RETIREMENT SYSTEM OF THE STATE OF KENTUCKY  
MANAGEMENT'S DISCUSSION AND ANALYSIS

This discussion and analysis of The Teachers' Retirement System of the State of Kentucky (Kentucky Teachers' Retirement System, KTRS, System, or Plan) financial performance provides an overview of the defined benefit and medical insurance plans' financial year ended June 30, 2013. Please read it in conjunction with the respective financial statements, which begin on page 22.

USING THIS FINANCIAL REPORT

Because of the long-term nature of the defined benefit retirement annuity plan, and the medical and life insurance plans, financial statements alone cannot provide sufficient information to properly reflect the ongoing perspective of the System. The Statement of Plan Net Position and Statement of Changes in Plan Net Position (on pages 22-25) provide information about the activities of the defined benefit retirement annuity plan, medical insurance plan, life insurance plan and the tax-sheltered annuity plan as a whole. The Kentucky Teachers' Retirement System is the fiduciary of funds held in trust for its members. The Schedule of Funding Progress (on pages 50 and 51) includes historical trend information about the actuarially funded status of each plan from a long-term, ongoing plan perspective and the progress made in accumulating sufficient assets to pay benefits and insurance premiums when due. The Schedule of Employer Contributions (on pages 50 and 51) presents historical trend information about the annual required contributions of employers and the contributions made by employers in relation to the requirement. These schedules provide information that contributes to understanding the changes over time in the funded status of the plans.

KENTUCKY TEACHERS' RETIREMENT SYSTEM AS A WHOLE

In the fiscal year ended June 30, 2013, Kentucky Teachers' Retirement System's combined plan net position increased by \$1,384.3 million - from \$15,229.1 million in 2012 to \$16,613.4 million in 2013. In 2011, the combined net position totaled \$15,514.9 million. The following summaries focus on plan net position and changes in plan net position of Kentucky Teachers' Retirement System's defined benefit retirement annuity plan, medical insurance plan, life insurance plan and other funds.

Summary of Plan Net Position

(In Millions)

Categories	Defined Benefit Plan			Medical Insurance Plan			Life Insurance Fund		
	2013	2012	2011	2013	2012	2011	2013	2012	2011
Cash & Investments	\$ 16,549.7	\$ 15,123.6	\$ 15,192.9	\$ 456.5	\$ 345.0	\$ 429.2	\$ 88.8	\$ 91.1	\$ 87.4
Receivables	173.0	133.4	180.7	16.8	16.3	5.3	1.1	1.1	1.1
Capital Assets	9.2	6.8	3.8						
<b>Total Assets</b>	<b>16,731.9</b>	<b>15,263.8</b>	<b>15,377.4</b>	<b>473.3</b>	<b>361.3</b>	<b>434.5</b>	<b>89.9</b>	<b>92.2</b>	<b>88.5</b>
<b>Total Liabilities</b>	<b>(623.1)</b>	<b>(466.7)</b>	<b>(246.8)</b>	<b>(59.6)</b>	<b>(22.5)</b>	<b>(139.7)</b>			
<b>Plan Net Position</b>	<b>\$ 16,108.8</b>	<b>\$ 14,797.1</b>	<b>\$ 15,130.6</b>	<b>\$ 413.7</b>	<b>\$ 338.8</b>	<b>\$ 294.8</b>	<b>\$ 89.9</b>	<b>\$ 92.2</b>	<b>\$ 88.5</b>

*TOTALS	2013	2012	2011
Cash & Investments	\$ 17,095.0	\$ 15,559.7	\$ 15,709.5
Receivables	190.9	150.8	187.1
Capital Assets	9.2	6.8	3.8
<b>Total Assets</b>	<b>17,295.1</b>	<b>15,717.3</b>	<b>15,900.4</b>
<b>Total Liabilities</b>	<b>(682.7)</b>	<b>(489.2)</b>	<b>(386.5)</b>
<b>Plan Net Assets</b>	<b>\$ 16,612.4</b>	<b>\$ 15,228.1</b>	<b>\$ 15,513.9</b>

\* Other Funds consisting of the 403(b) Tax Shelter Plan, the Excess Benefit Fund and the Losey Scholarship fund had a combined plan net position of \$.9 million for years ended 2013, 2012 and 2011.

The plan net position of the defined benefit retirement annuity plan increased by 8.9 percent (\$16,108.8 million compared to \$14,797.1 million) and in 2011, the plan net position of the defined benefit plan totaled \$15,130.6 million. The increase is primarily due to improvements in market conditions which resulted in a net investment income increase of \$1.73 billion more than 2012. The 2013 amount was \$.72 billion less than 2011. The defined benefit retirement annuity plan assets are restricted to providing monthly retirement allowances to members and their beneficiaries. Plan net position of the medical insurance plan increased by 22.1 percent (\$413.7 million compared to \$338.8 million) primarily due to contributions from members and employers exceeding insurance expenses due to legislation passed in 2010. This compares to 2011 where plan net position of the medical insurance fund totaled \$294.8 million. Plan assets are restricted to providing hospital and medical insurance benefits to members and their spouses.

**Summary of Changes in Plan Net Position**  
(In Millions)

Categories	Defined Benefit Plan			Medical Insurance Plan			Life Insurance Fund		
	2013	2012	2011	2013	2012	2011	2013	2012	2011
<b>ADDITIONS</b>									
Member Contributions	\$ 304.7	\$ 309.8	\$ 302.3	\$ 119.8	\$ 100.3	\$ 84.1	\$	\$	\$
Employer Contributions	568.2	557.3	1,037.9	166.6	174.0	188.3	1.7	1.7	1.7
Net Investment Income	2,039.9	309.7	2,761.0	30.7	(4.0)	8.3	0.7	6.4	3.1
Other Income					3.8	0.5			
<b>TOTAL ADDITIONS</b>	<u>2,912.8</u>	<u>1,176.8</u>	<u>4,101.2</u>	<u>317.1</u>	<u>274.1</u>	<u>281.2</u>	<u>2.4</u>	<u>8.1</u>	<u>4.8</u>
<b>DEDUCTIONS</b>									
Benefit Payments	1,570.7	1,482.9	1,402.6				4.6	4.4	4.2
Refunds	22.1	19.5	17.3						
Administrative Expense	8.4	7.8	7.3	1.3	1.2	1.2			
Insurance Expenses				<u>240.9</u>	<u>229.0</u>	<u>226.4</u>			
<b>TOTAL DEDUCTIONS</b>	<u>1,601.2</u>	<u>1,510.2</u>	<u>1,427.2</u>	<u>242.2</u>	<u>230.2</u>	<u>227.6</u>	<u>4.6</u>	<u>4.4</u>	<u>4.2</u>
<b>Increase (Decrease) in Plan Net Position</b>	\$ 1,311.6	\$ (333.4)	\$ 2,674.0	\$ 74.9	\$ 43.9	\$ 53.6	\$ (2.2)	\$ 3.7	\$ 0.6

TOTALS	2013	2012	2011
<b>ADDITIONS</b>			
Member Contributions	\$ 424.5	\$ 410.1	\$ 386.4
Employer Contributions	736.5	733.0	1,227.9
Net Investment Income	2,071.3	312.1	2,772.4
Other Income		38	0.5
<b>TOTAL ADDITIONS</b>	<u>3,232.3</u>	<u>1,459.0</u>	<u>4,387.2</u>
<b>DEDUCTIONS</b>			
Benefit Payments	1,575.3	1,487.3	1,406.8
Refunds	22.1	19.5	17.3
Administrative Expense	9.7	9.0	8.5
Insurance Expenses	<u>240.9</u>	<u>229.0</u>	<u>226.4</u>
<b>TOTAL DEDUCTIONS</b>	<u>1,848.0</u>	<u>1,744.8</u>	<u>1,659.0</u>
<b>Increase (Decrease) in Plan Net Assets</b>	\$ 1,384.3	\$ (285.8)	\$ 2,728.2

TEACHERS' RETIREMENT SYSTEM OF THE STATE OF KENTUCKY  
MANAGEMENT'S DISCUSSION AND ANALYSIS

DEFINED BENEFIT RETIREMENT ANNUITY PLAN ACTIVITIES

Member contributions decreased \$5.1 million. Retirement contributions are calculated by applying a percentage factor to salary and are paid monthly by each member. Members may also pay contributions to repurchase previously refunded service credit or to purchase various types of elective service credit.

Employer contributions totaled \$568.2 million, a net increase of \$10.9 million from the 2012 fiscal year.

The System experienced an increase in net investment income compared to the previous year (\$2,039.9 million at June 30, 2013 as compared to a \$309.7 million at June 30, 2012). For 2011, net investment income totaled \$2,761.0 million. The increase in the fair value of investments is mainly due to favorable market conditions for the year ended June 30, 2013 and is illustrated as follows:

<i>Dollar Amount in Millions</i>			
	2013	2012	2011
Appreciation (depreciation) in fair value of investments – June 30, prior year	\$ 1,411.6	\$ 1,842.0	\$ (235.5)
Appreciation (depreciation) in fair value of investments – June 30, end of year	<u>2,428.5</u>	<u>1,411.6</u>	<u>1,842.0</u>
Change in net appreciation (depreciation) in fair value of investments	1,016.9	(430.4)	2,077.5
Net income (net of investment expense)	438.1	378.2	362.3
Net gain on sale of investments	<u>548.9</u>	<u>361.9</u>	<u>321.2</u>
Investment Income (net) – June 30, end of year	\$ 2,039.9	\$ 309.7	\$ 2,761.0

Program deductions in 2013 increased \$91.0 million. The increase was caused principally by an increase of \$87.8 million in benefit payments. Members who were drawing benefits as of June 2012 received an increase of one and one-half percent to their retirement allowances in July 2012. Also, there was an increase of 1,312 members and beneficiaries on the retired payroll as of June 30, 2013.

OTHER POST EMPLOYMENT BENEFIT ACTIVITIES

During the 2013 fiscal year, the medical insurance plan member contributions increased \$19.5 million and employer contributions decreased \$7.4 million from fiscal year 2012. The member contributions increased primarily due to the implementation of the Shared Responsibility Plan beginning July 1, 2010 which includes increased contributions from active and retired members, employers and the state. The employer contributions decreased due to less transition funding paid by the state as the Shared Responsibility plan phases in until the 2016 fiscal year. The state's contribution for the fiscal year was made with bond proceeds received in March 2013.



Net investment income increased \$34.7 million from a negative \$4.0 million in 2012 to \$30.7 million in 2013. In 2011, net investment income totaled \$8.3 million. This can be illustrated as follows:

<i>Dollar Amount in Millions</i>			
	2013	2012	2011
Appreciation (depreciation) in fair value of investments – June 30, prior year	(9.7)	\$ 0	\$ 0
Appreciation (depreciation) in fair value of investments – June 30 end of year	<u>15.7</u>	<u>(9.7)</u>	<u>0</u>
Change in net appreciation(depreciation) in fair value of investments	25.4	(9.7)	0
Net income (net of investment expense)	5.3	6.0	8.3
Net gain (loss) on sale of investments	<u>0</u>	<u>(0.3)</u>	<u>0</u>
Investment Income (net) – June 30	\$ 30.7	\$ (4.0)	\$ 8.3

The life insurance plan has an actuarial valuation conducted independently from the defined benefit plan. Total life insurance benefits paid for 2013, 2012 and 2011 were \$4.6, \$4.4, and \$4.2 million respectively.

### HISTORICAL TRENDS

Accounting standards require that the Statement of Plan Net Position state asset value at fair value and include only benefits and refunds due plan members and beneficiaries and accrued investment and administrative expenses as of the reporting date. Information regarding the actuarial funding status of the defined benefit plan, the medical insurance plan, and the life insurance plan is provided in the Schedule of Funding Progress (beginning on page 50). The asset value, stated in the Schedule of Funding Progress, is determined by the System's independent actuary. The actuarial accrued liability is calculated using the entry age cost method.

The 2013 fiscal year reveals a decline in funding position of the retirement annuity plan due primarily to an increase in the actuarial liability while the actuarial value of the assets remained flat due to market decline in prior years. Annual required employer contributions of the defined benefit plan are provided in the Schedule of Employer Contributions (on page 50) and a shortfall of employer contributions has resulted in an accumulated net pension obligation of \$682,450,008 as of June 30, 2013.

Although the medical insurance plan continues to have a large unfunded actuarial liability, the current obligations are being met by current funding. Effective July 1, 2010 the Shared Responsibility Plan for funding retiree health benefits requires members, retirees, participating employers and the state to make contributions for pre-funding retiree medical benefits. Annual required contributions of the medical insurance plan are provided in the Schedule of Employer Contributions (on page 51) and a shortfall of employer contributions has resulted in an accumulated net OPEB obligation of \$1,469,685,047 as of June 30, 2013.

**Statement of Plan Net Position  
As of June 30, 2013**

	Defined Benefit Plan	Medical Insurance Plan	Life Insurance Plan	Other Funds	TOTAL
<b>ASSETS</b>					
Cash	\$ 26,650,916	\$ 6,879,174	\$ 226,483	\$ 68,943	\$ 33,825,516
Prepaid Expenses	125,364	147,000			272,364
Receivables					
Contributions	38,461,507	9,771,489	22,945		48,255,941
Due From Other Trust Funds	1,300,238				1,300,238
State of Kentucky	31,975,561	3,350,147	69,683		35,395,391
Investment Income	48,247,677	1,375,970	1,039,330	1,607	50,664,584
Investment Sales Receivable	52,391,569	2,348,249			54,739,818
Other Receivables	656,500				656,500
Total Receivables	173,033,052	16,845,855	1,131,958	1,607	191,012,472
Investments at Fair Value (See Note 5)					
Short-Term Investments	796,485,774	56,915,874	1,907,900	541,819	855,851,367
Bonds and Mortgages	3,093,270,830	64,728,260	86,715,442	238,626	3,244,953,158
Equities	10,102,552,862	243,022,751		120,315	10,345,695,928
Alternative Investments	540,739,121	1,255,715			541,994,836
Real Estate	642,611,173				642,611,173
Additional Categories	882,969,785	83,487,054			966,456,839
Total Investments	16,058,629,545	449,409,654	88,623,342	900,760	16,597,563,301
Invested Security Lending Collateral	464,229,713				464,229,713
Capital Assets, at cost net of accumulated depreciation of \$2,536,306 (See Note 2)	9,249,324				9,249,324
Total Assets	16,731,917,914	473,281,683	89,981,783	971,310	17,296,152,690
<b>LIABILITIES</b>					
Accounts Payable	1,513,830	4,058,236			5,572,066
Due to Other Trust Funds		1,275,206	24,425	607	1,300,238
Insurance Claims Payable		137,000			137,000
Revenues Collected in Advance		49,373,905			49,373,905
Investment Purchases Payable	157,366,066	4,771,571			162,137,637
Obligations Under Securities Lending	464,229,713				464,229,713
Total Liabilities	623,109,609	59,615,918	24,425	607	682,750,559
<b>NET POSITION-RESTRICTED FOR PENSION AND OTHER POST-EMPLOYMENT BENEFITS:</b>	<b>\$ 16,108,808,305</b>	<b>\$ 413,665,765</b>	<b>\$ 89,957,358</b>	<b>\$ 970,703</b>	<b>\$ 16,613,402,131</b>

*The combining statement of "Plan Net Position - Other Funds" is presented on page 26.  
The accompanying notes are an integral part of these financial statements.*

**Statement of Plan Net Position  
As of June 30, 2012**

	<b>Defined Benefit Plan</b>	<b>Medical Insurance Plan</b>	<b>Life Insurance Plan</b>	<b>Other Funds</b>	<b>TOTAL</b>
<b>ASSETS</b>					
Cash	\$ 25,314,512	\$ 5,202,577	\$ 299,153	\$ 9,828	\$ 30,826,070
Prepaid Expenses	62,774	147,000			209,774
Receivables					
Contributions	37,851,376	5,574,370	31,987		43,457,733
Due From Other Trust Funds	2,432,980				2,432,980
State of Kentucky	9,162,962	5,714,136	21,590		14,898,688
Investment Income	50,642,735	1,177,984	1,066,325	1,183	52,888,227
Investment Sales Receivable	33,559,535				33,559,535
Other Receivables	499,433	3,873,520			4,372,953
<b>Total Receivables</b>	<b>134,149,021</b>	<b>16,340,010</b>	<b>1,119,902</b>	<b>1,183</b>	<b>151,610,116</b>
Investments at Fair Value (See Note 5)					
Short-Term Investments	608,260,247	57,658,400	4,521,129	673,015	671,112,791
Bonds and Mortgages	3,209,187,529	87,375,468	86,345,459	270,532	3,383,178,988
Equities	9,259,302,459	140,740,862			9,400,043,321
Alternative Investments	451,266,337	748,103			452,014,440
Real Estate	586,800,766				586,800,766
Additional Categories	586,106,748	53,027,854			639,134,602
<b>Total Investments</b>	<b>14,700,924,086</b>	<b>339,550,687</b>	<b>90,866,588</b>	<b>943,547</b>	<b>15,132,284,908</b>
Invested Security Lending Collateral	396,546,893				396,546,893
Capital Assets, at cost net of accumulated depreciation of \$2,202,905 (See Note 2)	6,858,662				6,858,662
<b>Total Assets</b>	<b>15,263,855,948</b>	<b>361,240,274</b>	<b>92,285,643</b>	<b>954,558</b>	<b>15,718,336,423</b>
<b>LIABILITIES</b>					
Accounts Payable	4,052,099	3,762,868			7,814,967
Due to Other Trust Funds		2,387,658	44,397	925	2,432,980
Insurance Claims Payable		67,000			67,000
Revenues Collected in Advance		6,153,310			6,153,310
Investment Purchases Payable	66,136,067	10,122,885			76,258,952
Obligations Under Securities Lending	396,546,893				396,546,893
<b>Total Liabilities</b>	<b>466,735,059</b>	<b>22,493,721</b>	<b>44,397</b>	<b>925</b>	<b>489,274,102</b>
<b>NET POSITION-RESTRICTED FOR PENSION AND OTHER POST-EMPLOYMENT BENEFITS:</b>	<b>\$ 14,797,120,889</b>	<b>\$ 338,746,553</b>	<b>\$ 92,241,246</b>	<b>\$ 953,633</b>	<b>\$ 15,229,062,321</b>

*The combining statement of "Plan Net Position - Other Funds" is presented on page 27.  
The accompanying notes are an integral part of these financial statements.*

**Statement of Changes in Plan Net Position  
For the Year Ended June 30, 2013**

	Defined Benefit Plan	Medical Insurance Plan	Life Insurance Plan	Other Funds	TOTAL
<b>ADDITIONS</b>					
Contributions					
Employer	\$ 568,233,446	\$ 166,576,444	\$ 1,680,495	\$ 140,000	\$ 736,630,385
Member	304,738,728	119,795,780			424,534,508
Total Contributions	872,972,174	286,372,224	1,680,495	140,000	1,161,164,893
Other Income					
Recovery Income		34,976			34,976
Total Other Income		34,976			34,976
Investment Income					
Net Appreciation/(Depreciation) in FV of Investments	1,601,781,093	25,431,394	(2,822,147)	(18,885)	1,624,371,455
Interest	254,918,477	5,822,532	3,496,517	9,684	264,247,210
Dividends	184,104,556	20,949		1,507	184,127,012
Rental Income, Net	30,059,686				30,059,686
Securities Lending, Gross Earnings	3,077,116		390	3	3,077,509
Gross Investment Income	2,073,940,928	31,274,875	674,760	(7,691)	2,105,882,872
Less Investment Expense	(33,143,497)	(556,039)			(33,699,536)
Less Securities Lending Expense	(923,168)				(923,168)
Net Investment Income	2,039,874,263	30,718,836	674,760	(7,691)	2,071,260,168
Total Additions	2,912,846,437	317,126,036	2,355,255	132,309	3,232,460,037
<b>DEDUCTIONS</b>					
Benefits	1,570,722,924		4,614,718	114,632	1,575,452,274
Refunds of Contributions	22,059,094				22,059,094
Insurance Expenses		240,931,618			240,931,618
Administrative Expense	8,377,003	1,275,206	24,425	607	9,677,241
Total Deductions	1,601,159,021	242,206,824	4,639,143	115,239	1,848,120,227
Net Increase (Decrease)	1,311,687,416	74,919,212	(2,283,888)	17,070	1,384,339,810
<b>NET POSITION-RESTRICTED FOR PENSION AND OTHER POST- EMPLOYMENT BENEFITS:</b>					
Beginning of year	14,797,120,889	338,746,553	92,241,246	953,633	15,229,062,321
Ending of year	\$ 16,108,808,305	\$ 413,665,765	\$ 89,957,358	\$ 970,703	\$ 16,613,402,131

The combining statement of "Changes in Plan Net Position - Other Funds" is presented on page 26.  
The accompanying notes are an integral part of these financial statements.

**Statement of Changes in Plan Net Position  
For the Year Ended June 30, 2012**

	Defined Benefit Plan	Medical Insurance Plan	Life Insurance Plan	Other Funds	TOTAL
<b>ADDITIONS</b>					
Contributions					
Employer	\$ 557,339,552	\$ 173,966,623	\$ 1,684,711	\$	\$ 732,990,886
Member	309,729,924	100,346,070			410,075,994
Total Contributions	867,069,476	274,312,693	1,684,711		1,143,066,880
Other Income					
Recovery Income		3,483,583			3,483,583
Medicare D Receipts		297,639			297,639
Total Other Income		3,781,222			3,781,222
Investment Income					
Net Appreciation/(Depreciation) in FV of Investments	(68,546,089)	(9,970,177)	2,703,508	66,220	(75,746,538)
Interest	210,189,576	6,231,117	3,746,222	10,023	220,176,938
Dividends	163,431,233	32,266			163,463,499
Rental Income, Net	30,536,687				30,536,687
Securities Lending, Gross Earnings	3,104,925		292		3,105,217
Gross Investment Income	338,716,332	(3,706,794)	6,450,022	76,243	341,535,803
Less Investment Expense	(28,088,560)	(282,408)			(28,370,968)
Less Securities Lending Expense	(931,520)				(931,520)
Net Investment Income	309,696,252	(3,989,202)	6,450,022	76,243	312,233,315
Total Additions	1,176,765,728	274,104,713	8,134,733	76,243	1,459,081,417
<b>DEDUCTIONS</b>					
Benefits	1,482,939,165		4,397,281	92,232	1,487,428,678
Refunds of Contributions	19,549,073				19,549,073
Insurance Expenses		228,975,126			228,975,126
Administrative Expense	7,762,880	1,201,629	22,886	480	8,987,875
Total Deductions	1,510,251,118	230,176,755	4,420,167	92,712	1,744,940,752
Net Increase (Decrease)	(333,485,390)	43,927,958	3,714,566	(16,469)	(285,859,335)
<b>NET POSITION-RESTRICTED FOR PENSION AND OTHER POST- EMPLOYMENT BENEFITS:</b>					
Beginning of year	15,130,606,279	294,818,595	88,526,680	970,102	15,514,921,656
Ending of year	\$ 14,797,120,889	\$ 338,746,553	\$ 92,241,246	\$ 953,633	\$ 15,229,062,321

The combining statement of "Changes in Plan Net Position - Other Funds" is presented on page 27.  
The accompanying notes are an integral part of these financial statements.

**Combining Statement of Plan Net Position  
as of June 30, 2013  
OTHER FUNDS**

	403(B) Tax Shelter	Supplemental Benefit Fund	Losey Scholarship	TOTAL
<b>Assets</b>				
Cash	\$	\$ 68,943	\$	\$ 68,943
Receivables				
Investment Income			1,607	1,607
Investments at Fair Value				
Short Term Investments	391,095		150,724	541,819
Bonds and Mortgages			238,626	238,626
Equities	<u>          </u>	<u>          </u>	<u>120,315</u>	<u>120,315</u>
Total Investments	<u>391,095</u>	<u>          </u>	<u>509,665</u>	<u>900,760</u>
Total Assets	391,095	68,943	511,272	971,310
<b>Liabilities</b>				
Due to Other Trust Funds	<u>      76</u>	<u>      425</u>	<u>      106</u>	<u>      607</u>
Net Position - Restricted for Pension and Other Post-Employment Benefits	<u>\$ 391,019</u>	<u>\$ 68,518</u>	<u>\$ 511,166</u>	<u>\$ 970,703</u>

**Combining Statement of Changes in Plan Net Position  
as of June 30, 2013  
OTHER FUNDS**

	403(B) Tax Shelter	Supplemental Benefit Fund	Losey Scholarship	TOTAL
<b>Additions</b>				
Contributions				
Employer	\$	\$ 140,000	\$	\$ 140,000
Investment Income/(Loss)				
Net Appreciation/(Depreciation) in Fair Value of Investments			(18,885)	(18,885)
Interest	448		9,236	9,684
Dividends			1,507	1,507
Securities Lending, Net			<u>      3</u>	<u>      3</u>
Net Investment Income/(Loss)	<u>448</u>	<u>          </u>	<u>(8,139)</u>	<u>(7,691)</u>
Total Additions	448	140,000	(8,139)	132,309
<b>Deductions</b>				
Benefits	14,260	80,372	20,000	114,632
Administrative Expense	<u>      76</u>	<u>      425</u>	<u>      106</u>	<u>      607</u>
Net Increase (Decrease)	(13,888)	59,203	(28,245)	17,070
<b>Net Position - Restricted for Pension and Other Post-Employment Benefits</b>				
Beginning of Year	404,907	9,315	539,411	953,633
End of Year	<u>\$ 391,019</u>	<u>\$ 68,518</u>	<u>\$ 511,166</u>	<u>\$ 970,703</u>

*The accompanying notes are an integral part of these financial statements.*

**Combining Statement of Plan Net Position  
as of June 30, 2012  
OTHER FUNDS**

	403(B) Tax Shelter	Supplemental Benefit Fund	Losey Scholarship	TOTAL
<b>Assets</b>				
Cash	\$	\$ 9,828	\$	\$ 9,828
Receivables				
Investment Income			1,183	1,183
Investments at Fair Value				
Short Term Investments	405,136		267,879	673,015
Bonds and Mortgages			270,532	270,532
Equities	_____	_____	_____	_____
Total Investments	<u>405,136</u>	<u>_____</u>	<u>538,411</u>	<u>943,547</u>
Total Assets	405,136	9,828	539,594	954,558
<b>Liabilities</b>				
Due to Other Trust Funds	<u>229</u>	<u>513</u>	<u>183</u>	<u>925</u>
Net Position - Restricted for Pension and Other Post-Employment Benefits	<u>\$ 404,907</u>	<u>\$ 9,315</u>	<u>\$ 539,411</u>	<u>\$ 953,633</u>

**Combining Statement of Changes in Plan Net Position  
as of June 30, 2012  
OTHER FUNDS**

	403(B) Tax Shelter	Supplemental Benefit Fund	Losey Scholarship	TOTAL
<b>Additions</b>				
Contributions				
Employer	\$	\$	\$	\$
Investment Income/(Loss)				
Net Appreciation/(Depreciation) in Fair Value of Investments			66,220	66,220
Interest	<u>713</u>	<u>_____</u>	<u>9,310</u>	<u>10,023</u>
Net Investment Income/(Loss)	<u>713</u>	<u>_____</u>	<u>75,530</u>	<u>76,243</u>
Total Additions	713		75,530	76,243
<b>Deductions</b>				
Benefits	18,952	55,280	18,000	92,232
Administrative Expense	<u>99</u>	<u>287</u>	<u>94</u>	<u>480</u>
Net Increase (Decrease)	(18,338)	(55,567)	57,436	(16,469)
Net Position - Restricted for Pension and Other Post-Employment Benefits				
Beginning of Year	<u>423,245</u>	<u>64,882</u>	<u>481,975</u>	<u>970,102</u>
End of Year	<u>\$ 404,907</u>	<u>\$ 9,315</u>	<u>\$ 539,411</u>	<u>\$ 953,633</u>

*The accompanying notes are an integral part of these financial statements.*

**Notes to Financial Statements  
Years Ended June 30, 2013 and 2012**

**Note 1: Description of Retirement Annuity Plan**

**A. REPORTING ENTITY**

The Teachers' Retirement System of the State of Kentucky (KTRS) was created by the 1938 General Assembly and is governed by Chapter 161 Section 220 through Chapter 161 Section 990 of the Kentucky Revised Statutes (KRS). KTRS is a blended component unit of the Commonwealth of Kentucky and therefore is included in the Commonwealth's financial statements. KTRS is a cost-sharing multiple-employer defined benefit plan established to provide retirement annuity plan coverage for local school districts and other public educational agencies in the state.

**B. PARTICIPANTS**

As of June 30, 2013 a total of 208 employers participated in the plan. Employers are comprised of local school districts, Department of Education Agencies, universities, the Kentucky Community and Technical College System, and other educational organizations.

According to KRS 161.220 " . . . any regular or special teacher, or professional occupying a position requiring certification or graduation from a four (4) year college or university . . . " is eligible to participate in the System. The following illustrates the classifications of members:

Active contributing members:	<u>2013</u>	<u>2012</u>
Vested	48,620	48,383
Non-vested	26,211	27,568
Inactive members, vested	7,194	6,668
Retirees and beneficiaries currently receiving benefits	<u>47,406</u>	<u>46,094</u>
<b>Total members, retirees, and beneficiaries</b>	<u><u>129,431</u></u>	<u><u>128,713</u></u>

**C. BENEFIT PROVISIONS**

Members become vested when they complete five (5) years of credited service. To qualify for monthly retirement benefits, payable for life, members must either:

- 1.) Attain age fifty-five (55) and complete five (5) years of Kentucky service, or
- 2.) Complete 27 years of Kentucky service.

Participants that retire before age sixty (60) with less than twenty-seven (27) years of service receive reduced retirement benefits. Non-university members receive monthly payments equal to two percent (2%) (service prior to July 1, 1983) and two and one-half percent (2.5%) (service after July 1, 1983) of their final average salaries for each year of credited service. University employees receive monthly benefits equal to two percent (2%) of their final average salary for each year of credited service. The final average salary is the member's five (5) highest annual salaries except members at least age fifty-five (55) with twenty-seven (27) or more years of service may use their three (3) highest annual salaries. New members (including second retirement accounts started) after July 1, 2002 will receive monthly benefits equal to two percent (2%) of their final average salary for each year of service if, upon retirement, their total service is less than ten (10) years. New members after July 1, 2002 who retire with ten (10) or more years of total service will receive monthly benefits equal to two and one-half percent (2.5%) of their final average salary for each year of service, including the first ten (10) years. In addition, non-university members who retire July 1, 2004 and later with more than thirty (30) years of service will have their multiplier increased for all years over thirty (30) from two and one-half percent (2.5%) to three percent (3%) to be used in their benefit calculation.



*Note 1: Description of Retirement Annuity Plan continued . . .*

The System provides post-employment medical benefits to retirees as fully described in Note 8. The System also provides disability benefits for vested members at the rate of sixty percent (60%) of the final average salary. A life insurance benefit, payable upon the death of a member, is \$2,000 for active contributing members and \$5,000 for retired or disabled members.

Cost of living increases are one and one-half percent (1.5%) annually. Additional ad hoc increases and any other benefit amendments must be authorized by the General Assembly.

## Note 2: Summary of Significant Accounting Policies

### A. BASIS OF ACCOUNTING

The financial statements are prepared on the accrual basis of accounting. Member contributions and employer matching are recognized in the fiscal year due. Benefits and refunds are recognized when due and payable in accordance with the terms of the plan.

### B. CASH

KTRS has five cash accounts. At June 30, 2013, the retirement annuity cash account totaled \$25,651,419 and the administrative expense fund cash account was \$999,497 for a total of \$26,650,916 as carrying value of cash in the defined benefit plan. The medical insurance cash account totaled \$6,879,174, the life insurance plan cash account totaled \$226,483 and the excess benefit fund cash account contained \$68,943. Therefore, the carrying value of cash was \$33,825,516 and the bank balance was \$30,191,478 and funds controlled by the Commonwealth of Kentucky of \$6,527,386. The variance is primarily due to outstanding checks and items not processed by the bank on June 30, 2013.

### C. CAPITAL ASSETS

Fixed assets are recorded at historical cost less straight-line accumulated depreciation. The classes of fixed assets are furniture and equipment, the KTRS office buildings and land. Furniture and equipment are depreciated over an average useful life of five (5) years. The office buildings are depreciated over forty years. The Pathway System will be capitalized and amortized or depreciated over ten years. The Pathway System will replace KTRS's legacy computer system and be KTRS's primary line of business information technology system. As of June 30, 2013, the project to build and implement the Pathway System was approximately fifty percent (50%) complete.

### D. INVESTMENTS

Plan investments are reported at fair value. Fair value is the amount that a plan can reasonably expect to receive for an investment in a current sale between a willing buyer and a willing seller. Short-term securities are carried at cost, which approximates fair value. Fixed income and common and preferred stocks are generally valued based on published market prices and quotations from national security exchanges and securities pricing services. Real estate is primarily valued based on appraisals performed by independent appraisers. Alternative investments such as private equity, timberland, and other additional categories are valued using the most recent general partner statement of fair value based on independent appraisals, updated for any subsequent partnership interests' cash flows.

Purchase and sales of debt securities, equity securities, and short-term investments are recorded on the trade date. Real estate equity transactions are recorded on the settlement date. Upon sale of investments, the difference between sales proceeds and cost is reflected in the statement of changes in plan net position. Investment expenses consist of investment manager and consultant fees along with fees for custodial services.

### E. COMPENSATED ABSENCES

Expenses for accumulated vacation days and compensatory time earned by the System's employees

## FINANCIAL SECTION

---

### *Note 2: Summary of Significant Accounting Policies continued . . .*

are recorded when earned. Upon termination or retirement, employees of the System are paid for accumulated vacation time limited to sixty (60) days and accumulated compensatory time limited to two hundred-forty (240) hours. As of June 30, 2013 and 2012 accrued compensated absences were \$979,037 and \$876,573.

#### **F. RISK MANAGEMENT**

Destruction of assets, theft, employee injuries and court challenges to administrative policy are among the various risks to which the System is exposed. In order to cover such risks the System carries appropriate insurance policies such as fire and tornado, employee bonds, fiduciary liability, worker's compensation and equipment insurance.

#### **G. OTHER RECEIVABLES**

KTRS allows qualified purchases of service credit to be made by installment payments not to exceed a five (5) year period. Revenue is recognized in the initial year of the installment contract agreement. The June 30, 2013 and 2012 installment contract receivables were \$656,500 and \$499,433.

#### **H. USE OF ESTIMATES**

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

#### **I. INCOME TAXES**

The defined benefit plan is organized as a tax-exempt retirement plan under the Internal Revenue Code. The tax sheltered annuity plan is no longer continued and will be fully terminated when all lifetime annuities have expired. The System's management believes that it has operated the plans within the constraints imposed by federal tax law.

#### **J. RECENT PRONOUNCEMENTS**

In June 2011, the GASB issued Statement No. 63, Financial Reporting of Deferred Outflows of Resources, Deferred Inflows of Resources, and Net Position. GASB Statement No. 63 provides financial reporting guidance relative to deferred outflows of resources, a consumption of net assets by KTRS that is applicable to a future reporting period, and deferred inflows of resources, an acquisition of net assets by KTRS that is applicable to a future reporting period. GASB Statement No. 63 incorporates deferred outflows and inflows of resources into the definitions of the required components of the residual measure, renaming such measure as net position, rather than net assets. The provisions of GASB Statement No. 63 are effective for fiscal periods beginning after December 15, 2011 (the fiscal year ended June 30, 2013) and did not have a significant impact on the Systems' financial statements.

In April 2012, GASB issued Statement No. 65, Items Previously Reported as Assets and Liabilities. This pronouncement clarifies the appropriate reporting of deferred outflows of resources and deferred inflows of resources to ensure consistency in financial reporting. GASB Statement No. 65 is effective for fiscal years beginning after December 15, 2012 (the fiscal year ended June 30, 2014). The impact of this statement on the financial statements has not yet been determined.

In June 2012, the GASB issued Statement No. 67, Financial Reporting for Pension Plans and Statement No. 68, Accounting and Financial Reporting for Pensions. GASB Statement No. 67 replaces GASB Statement No. 25, Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans. GASB Statement No. 68 replaces GASB Statement No. 27, Accounting for Pensions by State and Local Governmental Employers. GASB Statement No. 67 is effective for the year ending June 30, 2014, and GASB Statement No. 68 will be effective for the year ending June 30, 2015. At this time,

*Note 2: Summary of Significant Accounting Policies continued . . .*

management is reviewing the recently issued pronouncements to determine the impact on KTRS's financial statements. An additional report related to GASB Statement No. 67 can be found beginning on page 139 in the Actuarial section of this CAFR.

**K. RECLASSIFICATIONS**

Certain 2012 amounts have been reclassified in conformity with the 2013 presentation.

### Note 3: Contributions and Reserves

**A. CONTRIBUTIONS**

Contribution rates are established by Kentucky Revised Statutes. Non-university members are required to contribute 10.855 percent of their salaries to the System; university members are required to contribute 9.055 percent of their salaries. KRS 161.565 allows each university to reduce the contribution of its members by 2.215 percent; therefore, university members contribute 6.840 percent of their salary to KTRS. University members who joined the plan on and after July 2008 are required to contribute an additional .32 percent to the medical insurance plan.

For members employed by local school districts, the state contributes 13.105 percent of salary for those who joined before July 1, 2008 and 14.105 percent for those who joined thereafter.

Other participating employers are required to contribute the percentage contributed by members plus an additional 3.25 percent of members' gross salaries.

The member and employer contributions consist of retirement annuity contributions and other post-employment benefit contributions to the medical and life insurance plans. The member post-employment medical contribution is 1.75 percent. The employer post-employment medical contribution is .75 percent of member gross salaries. Also, after July 1, 2010 employers (other than the state) contribute 1.0 percent of members' salaries and the state contributes the net cost of health insurance premiums for new retirees after June 30, 2010 in the non-Medicare eligible group. If a member leaves covered employment before accumulating five (5) years of credited service, accumulated member contributions to the retirement annuity plan plus interest are refunded upon the member's request.

**B. RESERVES****Member Reserve**

This fund was established by KRS 161.420(2) as the Teacher Savings Fund and consists of contributions paid by university and non-university members. The fund also includes interest authorized by the Board of Trustees from Unallocated Reserves. The accumulated contributions of members that are returned upon withdrawal or paid to the estate or designated beneficiary in the event of death are paid from this fund. Upon retirement, the member's contributions and the matching state contributions are transferred from this fund to Benefit Reserves, the fund from which retirement benefits are paid.

**Employer Reserve**

This fund was established by KRS 161.420(3) as the State Accumulation Fund and receives state appropriations to the Retirement System. The state matches an amount equal to members' contributions. State appropriations during the year are based on estimates of members' salaries. At year-end when actual salaries are known, the required state matching is also realized by producing either a receivable from or a payable to the State of Kentucky.

**Benefit Reserve**

This fund was established by KRS 161.420(4) as the Allowance Reserve Fund, the source for retirement, disability, and survivor benefits paid to members of the System. These benefits are paid from the retired members' contributions until they are exhausted, at which time state matching contributions are used to

**FINANCIAL SECTION**

*Note 3: Contributions and Reserves continued . . .*

pay the benefits. After an individual member's contributions and the state matching contributions have been exhausted, retirement benefits are paid from monies transferred from Unallocated Reserves.

**Unallocated Reserve**

This fund was established by KRS 161.420(6) as the Guarantee Fund, to collect income from investments, state matching contributions of members withdrawn from the System, and state matching contributions for cost of living adjustments (COLAs). In addition, it receives money for which disposition is not otherwise provided. This fund provides interest to the other funds, benefits in excess of both members' and state matching contributions, monies for administrative expenses of the System, and deficiencies not covered by the other funds.

**Administrative Expense Reserve**

This fund was established by KRS 161.420(1) as the Expense Fund. Investment income transferred to this fund from Unallocated Reserves is used to pay the administrative expenses of the System. Starting July 1, 2010 administrative expenses are allocated among the funds based on benefits paid.

**Note 4: Funded Status and Funding Progress**

**A. DESCRIPTION OF FUNDING PROGRESS**

The funded status of the Defined Benefit Retirement Annuity Plan as of the most recent actuarial valuation date is as follows:

<b>Schedule of Funding Progress</b>						
<i>(Dollar amount in thousands)</i>						
<b>Actuarial Valuation Date</b>	<b>Actuarial Value of Assets</b>	<b>Actuarial Accrued Liabilities</b>	<b>Unfunded Actuarial Accrued Liabilities (UAAL)</b>	<b>Funded Ratio</b>	<b>Covered Payroll</b>	<b>UAAL As a % of Covered Payroll</b>
	<b>A</b>	<b>B</b>	<b>(B-A)</b>	<b>(A/B)</b>	<b>C</b>	<b>[(B-A)/C]</b>
6/30/2013	\$ 14,962,758	\$ 28,817,232	\$ 13,854,474	51.9%	\$ 3,480,066	398.1%

The schedule of funding progress, presented as required supplementary information following the notes to the financial statements, presents multiyear funding trend information as obtained from the System's independent actuary's annual valuation report.

Expressing the actuarial value of assets as a percentage of the actuarial accrued liabilities provides an indication whether the System is becoming financially stronger or weaker. Generally, the greater the percentage the stronger the retirement system. Trends in unfunded actuarial accrued liabilities and annual covered payroll are both affected by inflation. Expressing the unfunded actuarial accrued liabilities as a percentage of annual covered payroll aids analysis of progress made in accumulating sufficient assets to pay benefits when due. Generally, the smaller this percentage the stronger the retirement system.

The accompanying schedule of employer contributions, presented as required supplementary information following the notes to the financial statements, presents trend information about the amounts contributed to the plan by employers in comparison to the Annual Required Contribution (ARC). The ARC is actuarially determined in accordance with the parameters of GASB Statement 50. The ARC represents a level of funding that, if paid on an ongoing basis, is projected to cover normal cost for each year and amortize any unfunded actuarial liabilities (or funding excess) over a period not to exceed thirty years.

Note 4: Funded Status and Funding Progress continued . . .

**B. METHODOLOGIES**

The promised benefits of the System are included in the actuarially calculated contribution rates, which are developed using the entry age actuarial cost method. Gains and losses are reflected in the unfunded accrued liability that is being amortized by regular annual contributions as a level percentage of payroll within a thirty (30) year period using an open amortization approach. The five (5) year smoothed market approach is used for asset valuation.

<b>Actuarial Value of Assets</b>		
(1)	Actuarial Value of Assets on June 30, 2012	\$ 14,691,371,043
(2)	Market Value End of Year June 30, 2013	16,108,808,305
(3)	Market Value Beginning of Year June 30, 2012	14,797,120,889
(4)	Cash Flow	
	a. Contributions (exclusive of Pension Obligation Bond)	872,972,174
	b. Benefit Payments	(1,592,782,018)
	c. Administrative Expenses	<u>(8,377,003)</u>
	d. Net	(728,186,847)
(5)	Investment Income	
	a. Market total: (2) - (3) -(4)d	2,039,874,263
	b. Assumed Rate	7.5%
	c. Amount for Immediate Recognition: [(3) x (5)b] + [(4)d * (5)b * 0.5]	<u>1,082,477,060</u>
	d. Amount for Phased-In Recognition: (5)a - (5)c	<u>957,397,203</u>
(6)	Phased-In Recognition of Investment Income	
	a. Current Year: 0.20 x (5)d	191,479,441
	b. First Prior Year	(160,195,981)
	c. Second Prior Year	363,670,625
	d. Third Prior Year	133,378,916
	e. Fourth Prior Year	<u>(611,235,941)</u>
	f. Total Recognized Investment Gain	<u>(82,902,940)</u>
(7)	Actuarial Value End of Year (1) + (4)d + (5)c +(6)f	<u>14,962,758,316</u>
(8)	Difference Between Market & Actuarial Values: (2) - (7)	<u>\$ 1,146,049,989</u>
(9)	Rate of Return on Actuarial Value	6.98%

**C. ASSUMPTIONS**

Significant actuarial assumptions employed by the actuary for the funding purposes as of June 30, 2013, the most recent updated actuarial information include:

*	Assumed inflation rate	3.50%
*	Assumed investment rate	7.50%
*	Assumed projected salary increases	4.00% - 8.20%
*	Assumed annual cost of living adjustments	1.50%

**Note 5: Deposits With Financial Institutions and Investments  
(Including Repurchase Agreements)**

**A. LEGAL PROVISIONS FOR INVESTMENTS**

The following disclosures are meant to help the users of KTRS' financial statements assess the risks KTRS takes in investing member funds. The Board of Trustees and the Investment Committee are guided by asset allocation parameters that the Board approves through its powers as defined in KRS 161.430.

KTRS administers a retirement annuity trust fund and a health insurance trust fund in accordance with state and federal law. KTRS provides service and disability retirement benefits, death and survivor benefits, health insurance benefits, and life insurance benefits for Kentucky public education employees and their beneficiaries. The trust funds managed by KTRS shall be referred to collectively as the "retirement system" unless the context requires a specific reference to a particular fund.

The asset allocation parameters for the retirement annuity trust fund are set forth in Title 102, Chapter 1:175, Section 2 of the Kentucky Administrative Regulations as follows:

- There shall be no limit on the amount of investments owned by the retirement annuity trust fund if the investments are guaranteed by the United States government.
- Not more than thirty-five percent (35%) of the assets of the retirement annuity trust fund at fair value shall be invested in corporate debt obligations.
- Not more than ten percent (10%) of the assets of the retirement annuity trust fund at fair value shall be invested in foreign debt.
- Not more than sixty-five percent (65%) of the assets of the retirement annuity trust fund at fair value shall be invested in common stocks or preferred stocks. Not more than twenty-five percent (25%) of the assets of the retirement annuity trust fund at fair value shall be invested in a stock portfolio designed to replicate a general stock index. Not more than thirty percent (30%) of the assets of the retirement annuity trust fund at fair value shall be invested in the stocks of companies domiciled outside of the United States; any amounts so invested shall be included in the sixty-five percent (65%) limitation for total stocks.
- Not more than ten percent (10%) of the assets of the retirement annuity trust fund at fair value shall be invested in real estate. This would include real estate equity, real estate lease agreements, and shares in real estate investment trusts.
- Not more than ten percent (10%) of the assets of the retirement annuity trust fund at fair value shall be invested in alternative investments. This category may include private equity, venture capital, timberland, and infrastructure investments.
- Not more than fifteen percent (15%) of the assets of the retirement annuity trust fund at fair value shall be invested in any additional category or categories of investments. The Board of Trustees shall approve by resolution such additional category or categories of investments.

The asset allocation parameters for the health insurance trust fund are set forth in Title 102, Chapter 1:178, Section 2 of the Kentucky Administrative Regulations as follows:

- In order to preserve the assets of the health insurance trust fund and produce the required rate of return while minimizing risk, assets shall be prudently diversified among various classes of investments.

*Note 5: Deposits With Financial Institutions and Investments (Including Repurchase Agreements) continued . . .*

- In determining asset allocation policy, the investment committee and the board shall be mindful of the health insurance trust fund's liquidity and its capability of meeting both short and long-term obligations.

## **B. CASH AND CASH EQUIVALENTS**

For cash deposits and cash equivalents, custodial credit risk is the risk that, in the event of a bank failure, the retirement system's deposits may not be returned to the system. The retirement system's total cash balance held at J.P. Morgan Chase Bank in noninterest-bearing accounts on June 30, 2013 was \$30,191,478. In addition to these funds, an amount of \$6,527,386 represents funds transferred to and controlled by the Commonwealth of Kentucky.

On November 9, 2010, the FDIC issued a Final Rule implementing Section 343 of the Dodd-Frank Wall Street Reform and Consumer Protection Act that provides for unlimited insurance coverage of noninterest-bearing transaction accounts. Beginning December 31, 2010, through December 31, 2012, all noninterest-bearing transaction accounts are fully insured, regardless of the balance of the account, at all FDIC-insured institutions. Therefore, all cash balances were fully insured by the FDIC through December 31, 2012. Beginning January 1, 2013, all cash balances at J.P. Morgan Chase Bank were insured up to \$250,000 and the remaining balances fully collateralized with securities held by the Federal Reserve Bank of New York in the name of the Commonwealth of Kentucky-Teachers' Retirement.

Deposits are exposed to custodial credit risk if they are not covered by depository insurance and the deposits are:

- uncollateralized,
- collateralized with securities held by the pledging financial institution, or
- collateralized with securities held by the pledging financial institution's trust department or agent but not in the depositor-government's name.

As of June 30, 2013, the retirement system's cash balance in the amount of \$30,191,478 was not exposed to custodial credit risk since this amount was fully insured by the FDIC limit of \$250,000 and the remaining balances collateralized with securities valued at \$42,467,757.

## **C. INVESTMENTS**

All of the retirement system's assets are invested in short-term and long-term debt (bonds and mortgages) securities, equity (stock) securities, real estate, alternative investments, and additional categories as permitted by regulation. These assets are reported at fair value.

Investments are governed by the Board of Trustees' policies while the Board of Trustees and the Investment Committee shall execute their fiduciary responsibilities in accordance with the "prudent person rule", as identified in KRS 161.430 (2)(b). The prudent person rule establishes a standard for all fiduciaries, to act as a prudent person would be expected to act, with the "care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with these matters would use in the conduct of an enterprise of a like character and with like aims".

## FINANCIAL SECTION

Note 5: Deposits With Financial Institutions and Investments (Including Repurchase Agreements) continued . . .

The following chart represents the fair values of the investments of the Kentucky Teachers' Retirement System for June 30, 2013.

<b>Schedule of Investments</b>		
<b>Retirement Annuity Trust</b>		
	<b>Fair Value</b> <b>June 30, 2013</b>	<b>Fair Value</b> <b>June 30, 2012</b>
Money Market Fund	\$ 766,568,843	\$ 625,060,870
Commercial Paper	<u>34,560,147</u>	<u>                    </u>
<b>Total Cash Equivalents*</b>	<b>801,128,990</b>	<b>625,060,870</b>
U.S. Government	650,217,435	502,533,682
Agency Bonds	146,127,074	156,932,114
Mortgage Backed Securities	180,378,637	199,128,064
Asset Backed Securities	41,175,017	60,608,480
Commercial Mtg Backed Securities	210,980,212	295,709,822
Collateralized Mtg Obligations	41,523,706	43,276,306
Municipal Bonds	460,132,862	511,018,984
Corporate Bonds	<u>1,449,689,955</u>	<u>1,526,596,068</u>
<b>Total Fixed Income</b>	<b>3,180,224,898</b>	<b>3,295,803,520</b>
Global		
International Equity	2,676,211,485	2,307,653,944
U.S. Equity	<u>7,426,461,692</u>	<u>6,951,648,515</u>
<b>Total Equities</b>	<b>10,102,673,177</b>	<b>9,259,302,459</b>
Real Estate Equity	<u>642,611,173</u>	<u>586,800,766</u>
<b>Total Real Estate Equity</b>	<b>642,611,173</b>	<b>586,800,766</b>
Private Equity	343,259,092	265,833,651
Timberland	<u>197,480,029</u>	<u>185,432,686</u>
<b>Total Alternative Investments</b>	<b>540,739,121</b>	<b>451,266,337</b>
Opportunistic Credit	477,554,833	191,846,044
Corporate	307,715,989	271,894,458
International Bonds	91,778,981	
PPIP	4,859,928	121,357,075
Preferred US Equity	<u>1,060,054</u>	<u>1,009,171</u>
<b>Total Additional Categories</b>	<b>882,969,785</b>	<b>586,106,748</b>
<b>TOTAL INVESTMENTS</b>	<b><u>\$ 16,150,347,144</u></b>	<b><u>\$ 14,804,340,700</u></b>



Note 5: Deposits With Financial Institutions and Investments (Including Repurchase Agreements) continued . . .

<b>Schedule of Investments Comparison Health Insurance Trust</b>		
	<b>Fair Value June 30, 2013</b>	<b>Fair Value June 30, 2012</b>
Money Market Fund	\$ 54,722,377	\$ 46,051,921
<b>Total Cash Equivalents</b>	<b>54,722,377</b>	<b>46,051,921</b>
Agency Bonds	32,292,470	87,375,468
Asset Backed Securities	9,360,161	
Corporate Bonds	<u>23,075,629</u>	<u>52,755,524</u>
<b>Total Fixed Income</b>	<b>64,728,260</b>	<b>140,130,992</b>
Global	<u>243,022,751</u>	<u>140,740,862</u>
<b>Total Equities</b>	<b>243,022,751</b>	<b>140,740,862</b>
Private Equity	<u>1,255,715</u>	<u>748,103</u>
<b>Total Alternative Investments</b>	<b>1,255,715</b>	<b>748,103</b>
Opportunistic Credit	23,840,109	
Corporate	59,360,240	
Preferred US Equity	<u>286,705</u>	<u>272,330</u>
<b>Total Additional Categories</b>	<b>83,487,054</b>	<b>272,330</b>
<b>Total Investments</b>	<b>\$ 447,216,157</b>	<b>\$ 327,944,208</b>

**Custodial Credit Risk**

Custodial Credit Risk for an investment is the risk that, in the event of the failure of counterparty, the pension trust fund will not be able to recover the value of its investment or collateral securities that are in the possession of an outside party. Investment securities are exposed to custodial credit risk if the securities are uninsured, are not registered in the name of the retirement system, and are held by either:

- a. the counterparty or
- b. the counterparty's trust department or agent, but not in the System's name.

The cash reserve of the retirement system is primarily maintained in high quality short term investments through the Dreyfus Institutional Cash Advantage Fund. This Fund invests in a diversified portfolio of high quality, short-term debt securities and the Fund is rated AAA by S&P, Moody's, and Fitch, Inc. The Fund's portfolio is structured within the confines of Rule 2a-7 under the Investment Company Act of 1940, as amended. Commercial paper, U.S. Treasury and agency obligations, certificates of deposit, bankers' acceptances, repurchase agreements, time deposits, etc. are all permissible investments within this Fund.

Whenever repurchase agreements are ordered by KTRS under the terms of Master Repurchase Agreements with various brokers, the terms are dictated by KTRS. The repurchase agreements and their supporting collateral are held by the custodial agent's correspondent bank in an account identified by the custodian's name and KTRS' nominee name. This account is unique to KTRS. The Master Repurchase Agreements require that the supporting collateral have a fair value of at least 102 percent of the value of the repurchase agreements.

## FINANCIAL SECTION

Note 5: Deposits With Financial Institutions and Investments (Including Repurchase Agreements) continued . . .

As of June 30, 2013, cash collateral reinvestment securities acquired through securities lending for the retirement annuity trust fund by KTRS's custodian, who is also the lending agent/counterparty, amounted to \$464,229,713 related to \$450,695,509 securities lent consistent with the lending agreement with the custodian. (Please refer to a following section entitled Securities Lending.)

### Interest Rate Risk

Interest rate risk on investments is the possibility that changes in interest rates will reduce the fair value of the retirement system's investments. In general, the longer the period until an investment matures, the greater the risk of a negative impact on fair value resulting from changes in interest rates.

As of June 30, 2013, the retirement annuity trust and health insurance trusts had the following investments and weighted average maturities:

<b>Retirement Annuity Trust</b>			
<b>Investment Type</b>	<b>Fixed Income</b>	<b>Additional Categories</b>	<b>Average Maturity (years)</b>
U.S. Government	\$ 650,217,435	\$	8.36
Agency	146,127,074		8.41
MBS	180,378,637		13.76
CMO	41,523,706		18.63
ABS	41,175,017		15.30
CMBS	210,980,212		25.70
Muni	460,132,862	53,077,891	13.11
Corporate	1,449,689,955	522,504,400	7.95
<b>Totals</b>	<b>\$ 3,180,224,898</b>	<b>\$ 575,582,291</b>	<b>10.22</b>

<b>Health Insurance Trust</b>			
<b>Investment Type</b>	<b>Fixed Income</b>	<b>Additional Categories</b>	<b>Average Maturity (years)</b>
Agency	\$ 32,292,470	\$	6.05
ABS	9,360,161		1.20
Corporate	23,075,629	82,069,081	5.65
<b>Totals</b>	<b>\$ 64,728,260</b>	<b>\$ 82,069,081</b>	<b>5.45</b>

---

*Note 5: Deposits With Financial Institutions and Investments (Including Repurchase Agreements) continued . . .*

In addition to the above securities, the System held short-term cash investments in the Dreyfus Institutional Cash Advantage Fund and STIF, held at the Bank of New York Mellon, with a total fair value of \$821,291,220 and had a weighted average maturity of forty-one (41) days. Average maturity is used as a measure of a security's exposure to interest rate risk due to fluctuations in market interest rates. Mortgage-backed securities and collateralized mortgage obligations are typically amortizing investments with an average life and interest rate risk significantly less than suggested by the legal maturity. Mortgage-backed securities, which are generally pre-payable, and other callable bonds are subject to adverse changes in average life in response to market interest rate changes. The schedule above reflects only the legal maturity of all such bonds.

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. This risk is managed by using the effective duration or option adjusted methodology to quantify the risk of interest rate changes. This methodology takes into account optionality on bonds and scales the risk of price changes on bonds depending upon the degree of changes in rates and the slope of the yield curve. The control of interest rate risk is not set forth in a particular policy; however, the retirement system manages interest rate risk in practice by establishing appropriate benchmarks for its various portfolios.

Mortgage-backed securities are securities representing pass-through interests in the cash flows from pools of mortgage loans on single-family or multi-family residential properties. All of the mortgage-backed securities owned by the retirement system were securitized and are guaranteed by Fannie Mae, Freddie Mac, or GNMA. The average life of a mortgage-backed security depends upon the level of prepayments experienced in the underlying pool of loans. Market interest rates are a primary determinant of prepayment levels. Lower than anticipated market rates generally lead to higher than anticipated prepayments and a shorter average life; higher than anticipated market rates generally lead to lower than anticipated prepayments and a longer average life. The retirement system held \$180.4 million in mortgage-backed securities as of June 30, 2013.

Collateralized mortgage obligations are bonds that are collateralized by whole loan mortgages, mortgage pass-through securities or stripped mortgage-backed securities. Income is derived from payments and prepayments of principal and interest generated from collateral mortgages. Cash flows are distributed to different investment classes in accordance with a collateralized mortgage obligations established payment order. The System held \$41.5 million in collateralized mortgage obligations as of June 30, 2013.

Asset-backed securities are bonds or notes backed by loan paper or accounts receivables originated by banks, credit card companies, or other credit providers, and are considered to be moderately sensitive to changes in interest rates. The originator of the loan or accounts receivable paper sells it to a specially created trust, which repackages it as securities. Asset-backed securities have been structured as pass-throughs and as structures with multiple bond classes. The retirement annuity trust held \$41.2 million, and the health insurance trust held \$9.4 million in asset backed securities as of June 30, 2013.

Commercial mortgage-backed securities are securities representing interests in the cash flows from pools of mortgage loans on commercial properties. The interests in a securitized pool of loans are generally divided into various tranches based upon planned payment order and level of seniority. The retirement system's commercial mortgage-backed securities investments consist of highly rated relatively senior tranches. The average maturity of the retirement system's commercial mortgage-backed securities holdings in the schedule above reflects the legal maturity of those holdings. Most of the tranches held are earlier in the planned payment order than the legal maturity suggests. The retirement system held \$211.0 million in commercial mortgage-backed securities investments as of June 30, 2013.

## FINANCIAL SECTION

Note 5: Deposits With Financial Institutions and Investments (Including Repurchase Agreements) continued . . .

### Credit Risk

Credit risk is the risk that an issuer or counterparty to an investment will not fulfill its obligations. The following schedule lists KTRS's fixed income investments (net of cash equivalents) according to credit ratings as of June 30, 2013:

<b>Retirement Annuity Trust</b>				
<u>Rating</u>	<u>Bonds &amp; Mortgages</u>	<u>Additional Categories</u>	<u>Total</u>	<u>%</u>
U.S. Government	\$ 650,217,435	\$	\$ 650,217,435	17.31
AAA	395,149,816	21,149,744	416,299,560	11.08
AA	887,644,553	23,525,750	911,170,303	24.26
A	691,886,217	32,343,439	724,229,656	19.29
BBB	520,466,142	36,753,231	557,219,373	14.84
BB	13,617,750	207,935,099	221,552,849	5.90
B	11,260,000	226,575,403	237,835,403	6.33
CCC		21,397,284	21,397,284	0.57
D		722,240	722,240	0.02
Not Rated	9,982,985	5,180,101	15,163,086	0.40
<b>Total</b>	<b>\$ 3,180,224,898</b>	<b>\$ 575,582,291</b>	<b>\$ 3,755,807,189</b>	<b>100.00%</b>

<b>Health Insurance Trust</b>				
<u>Rating</u>	<u>Bonds &amp; Mortgages</u>	<u>Additional Categories</u>	<u>Total</u>	<u>%</u>
AAA	\$ 9,360,161	\$	\$ 9,360,161	6.38
AA	33,782,961		33,782,961	23.01
A	21,585,138	258,390	21,843,528	14.88
BBB		5,683,810	5,683,810	3.88
BB		32,396,397	32,396,397	22.07
B		40,562,606	40,562,606	27.63
CCC		2,790,659	2,790,659	1.90
D		152,500	152,500	0.10
Not Rated		224,719	224,719	0.15
<b>Total</b>	<b>\$ 64,728,260</b>	<b>\$ 82,069,081</b>	<b>\$ 146,797,341</b>	<b>100.00%</b>

*Note 5: Deposits With Financial Institutions and Investments (Including Repurchase Agreements) continued . . .*

Total fair value of the retirement annuity trust's fixed income portfolio was \$3,755,807,189 on June 30, 2013. The health insurance trust's fixed income portfolio was valued at \$146,797,341. The rating system used in the above charts is the Standard and Poor's rating system. For securities where a Standard and Poor's rating is not provided, another nationally recognized system is used and translated to the Standard and Poor's rating system.

In addition to the above categories, the retirement annuity trust held \$766,568,843 in short term investments through the Dreyfus Institutional Cash Advantage Fund, and \$34,560,147 in short term commercial paper. The health insurance trust held \$54,722,377 in the Dreyfus Institutional Cash Advantage Fund. The credit risk associated with this Fund is minimal as the securities held are required to maintain the highest possible short-term credit ratings by Moody's and Standard & Poor's. In addition, investments in US Government and Agency securities are also highly rated securities since they are backed by the US Government. Notation is made that the ratings of securities is subject to change due to circumstances and thereby may have a lower rating than when first purchased.

The retirement annuity trust fund's policy on credit rating is set forth in 102 KAR 1:175 and reads as follows:

"A fixed income investment shall be rated at the time of purchase as investment grade by at least one (1) of the major rating services. A private placement debt investment shall be subject to the same credit qualifications as each fixed income investment. The fixed income investment portfolio as a whole shall maintain an average rating of investment grade by at least one (1) of the major rating services."

**Concentration of Credit Risk**

Concentration of credit risk is the risk of loss attributed to the magnitude of a government's investment in a single issuer. Losses from credit risk are heightened if a significant portion of resources are invested with a single issuer. Per Administrative Regulation 102 KAR 1:175, the retirement annuity trust fund is subject to the following policies regarding single issuers of fixed income and equity securities:

"Unless the issuer is the United States Government or a government sponsored enterprise (GSE), the amount invested in the securities of a single issuer shall not equal more than five (5) percent of the assets of the system.

"The System's position in a single stock shall not exceed two and one-half (2.5) percent of the System's assets. The system's position in a single stock shall not exceed five (5) percent of the outstanding stock for that company unless the investment is part of a venture capital program."

KTRS has not invested greater than five percent (5%) of the retirement annuity trust fund's assets at fair value in any single issuer and is in compliance with investment policy.

**Foreign Currency Risk**

Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment or a deposit. As of June 30, 2013, the retirement system's exposure to foreign currency risk consisted of \$3,095,845,767 and \$150,873,788 in the retirement annuity trust and health insurance trust funds respectively.

The following tables represent the fair values of investments that are subject to foreign currency as a result of cash contributions to each portfolio manager.

## FINANCIAL SECTION

Note 5: Deposits With Financial Institutions and Investments (Including Repurchase Agreements) continued . . .

<b><u>Retirement Annuity Trust</u></b>	
<b>Commingled Funds</b>	
Rogge Global Int'l Fixed Income	\$ 73,866,899
Baillie Gifford Intrntl EAFE	621,831,309
Baring All Country World ex US	445,951,918
BlackRock ACWI EX-US IMI	350,243,165
UBS All Country World ex US	471,191,694
<b>Alternative Funds</b>	
KKR & Co. European Fund III	56,543,955
Oaktree European Principal Fund III	10,157,366
<b>ADRs (Equities)</b>	742,298,527
<b>Bonds (Fixed Income)</b>	263,935,728
<b>Additional Categories (Fixed Income)</b>	<u>59,825,206</u>
<b>Total</b>	<b><u>\$ 3,095,845,767</u></b>
<b><u>Health Insurance Trust</u></b>	
<b>Commingled Funds</b>	
Medical Ins. Black Rock Fund B	\$ 123,779,544
<b>Bonds (Fixed Income)</b>	16,494,738
<b>Additional Categories (Fixed Income)</b>	<u>10,599,506</u>
<b>Total</b>	<b><u>\$ 150,873,788</u></b>

The following tables reflect the various foreign currencies associated with the System's investments in the funds outlined previously:

<b><u>Retirement Annuity Trust</u></b>			
<b><u>Currency</u></b>	<b><u>Market Value</u></b>	<b><u>Currency</u></b>	<b><u>Market Value</u></b>
Australian Dollar	\$ 139,445,987	Liberian Dollar	623,428
Bermudian Dollar	25,839,445	Malaysian Ringgit	11,754,031
Bolívar Fuerte	4,073,160	Mexican Peso	38,235,293
Brazilian Real	55,494,528	Moroccan Dirham	55,074
British Pound Sterling	444,596,277	New Zealand Dollar	4,849,609
Canadian Dollar	251,933,687	Norwegian Krone	31,375,502
Cayman Islands Dollar	21,138,551	Panamanian Balboa	12,456,400
Chilean Peso	3,943,914	Peruvian Nuevo Sol	9,007,698
Chinese Yuan	129,822,181	Philippine Peso	813,813
Colombian Peso	6,597,535	Polish Zloty	8,464,289
Czech Crown	215,546	Riyal	873,676
Danish Krone	39,745,423	Russian Ruble	70,082,989
Dominican Peso	293,074	Singapore Dollar	45,740,231
Egyptian Pound	236,259	South African Rand	16,219,538
Euro	688,338,617	South Korean Won	74,639,548
Hong Kong Dollar	72,220,920	Swedish Krona	106,734,326
Hungarian Forint	181,169	Swiss Franc	238,386,117
Indian Rupee	29,461,493	Taiwan Dollar	47,424,825
Indonesian Rupiah	5,784,260	Thai Baht	9,219,788
Israeli New Shekel	35,107,147	Turkish Lira	12,314,086
Japanese Yen	378,471,443	Various	<u>5,391,439</u>
Jersey Pound	18,029,727		
Kuna	213,724	<b>Total</b>	<b><u>\$ 3,095,845,767</u></b>

Note 5: Deposits With Financial Institutions and Investments (Including Repurchase Agreements) continued . . .

The following table reflects the various foreign currencies associated with the retirement system’s investment in the funds outlined above:

<b>Health Insurance Trust</b>			
<u>Currency</u>	<u>Market Value</u>	<u>Currency</u>	<u>Market Value</u>
Australian Dollar	\$ 7,313,118	Mexican Peso	1,360,770
Brazilian Real	2,911,930	Moroccan Dirham	20,324
British Pound Sterling	19,024,292	New Zealand Dollar	196,583
Canadian Dollar	16,175,326	Norwegian Krone	872,933
Cayman Islands Dollar	1,158,038	Peruvian Nuevo Sol	7,294
Chilean Peso	510,183	Philippine Peso	300,096
Chinese Yuan	99,323	Polish Zloty	408,204
Colombian Peso	277,911	Russian Ruble	1,082,483
Czech Crown	59,223	Singapore Dollar	1,588,529
Danish Krone	1,548,560	South African Rand	1,977,658
Egyptian Pound	85,039	South Korean Won	4,020,630
Euro	38,158,584	Swedish Krona	2,742,732
Hong Kong Dollar	7,348,663	Swiss Franc	9,812,335
Hungarian Forint	63,670	Taiwan Dollar	3,516,810
Indian Rupee	1,801,775	Thai Baht	809,220
Indonesian Rupiah	934,193	Turkish Lira	549,548
Israeli New Shekel	535,800	Various	<u>1,873,527</u>
Japanese Yen	20,474,487		
Liberian Dollar	114,660	<b>Total</b>	<b><u>\$ 150,873,788</u></b>
Malaysian Ringgit	1,139,337		

The majority of foreign investments are held in commingled funds managed by Rogge Global Partners, UBS Global Asset Management, Baillie Gifford, Baring Asset Management, and Black Rock. In addition to the commingled funds investing in foreign securities, the retirement annuity trust fund held \$742,298,527 associated with foreign interests in American Depositary Receipt investments. These American Depositary Receipts are securities that are issued by a U.S. bank in place of the foreign stock shares held in trust by that bank, thereby facilitating the trading of foreign shares in U.S. markets. American Depositary Receipts are denominated in U.S. currency. Other foreign securities and investments consisted of debt securities and alternative investment opportunities.

The retirement annuity trust fund's policy regarding foreign equities is that not more than thirty percent (30%) of the assets of the retirement annuity trust fund at fair value shall be invested in the stocks of companies domiciled outside of the United States. Any amounts so invested shall be included in the sixty-five percent (65%) limitation for total stocks per 102 KAR 1:175 Section 2(e).

**D. SECURITIES LENDING**

Section 161.430 of the Kentucky Revised Statutes empowers the Board of Trustees with complete fiduciary responsibility for the funds of the retirement system. The retirement system operates a securities lending program in which it temporarily lends securities to qualified agents in exchange for a net fee and high quality collateral. U.S. Government and agency securities, selected domestic bonds, and domestic and international stocks are the types of securities that are lent. The retirement system's custodian, The Bank of New York Mellon, acts as lending agent in exchanging securities for collateral. The collateral has a value of not less than 102% of the fair value of the lent securities plus any accrued, unpaid distributions. The collateral may consist of cash, marketable U.S. Government securities, and select marketable U.S. Government agency securities approved by the retirement system.

## FINANCIAL SECTION

Note 5: Deposits With Financial Institutions and Investments (Including Repurchase Agreements) continued . . .

Securities lending transactions are accounted for in accordance with GASB Statement No. 28 Accounting and Financial Reporting for Securities Lending Transactions, which established standards of accounting and financial reporting for securities lending transactions. During the fiscal year ended June 30, 2013, only the retirement annuity trust fund had securities lending transactions. The following section details the net income earned in the retirement annuity trust fund from securities lending for the fiscal year ended June 30, 2013:

<u>Item</u>	<u>2013 Earnings</u>	<u>2012 Earnings</u>
Gross Earnings (Interest and Fees)	\$ 600,782	\$ 314,708
Gross Borrower Rebates	2,476,727	2,790,509
Bank Fees	<u>(923,168)</u>	<u>(931,520)</u>
<b>Net Earnings</b>	<b><u>\$ 2,154,341</u></b>	<b><u>\$ 2,173,697</u></b>

Cash collateral is invested in short-term obligations fully guaranteed by the United States Government or select Government agencies and Government Repurchase Agreements with qualified agents. The retirement system cannot pledge or sell collateral securities received unless the borrower defaults. The lending agent (Bank of New York Mellon) also indemnifies the retirement system from any financial loss associated with a borrower's default and collateral inadequacy.

As of June 30, 2013 the loan average days to maturity in the retirement annuity trust fund was one (1) days and the weighted average investment maturity of cash collateral investments was one (1) days. At fiscal year end, the retirement annuity trust fund had no credit risk exposure to borrowers, since the amounts the retirement annuity trust fund owes the borrowers exceeds the amounts the borrowers owe the retirement annuity trust fund and there were no losses resulting during the period.

Security lending programs can entail interest rate risk and credit risk. The retirement system minimizes interest rate risk by limiting the term of cash collateral investments to several days.

The credit risk is controlled by investing cash collateral in securities with qualities similar to the credit worthiness of lent securities.

The following table presents the fair values of the underlying securities, and the value of the collateral pledged at June 30, 2013:

<u>Type of Security Lent</u>	<u>Fair Value</u>	<u>Cash &amp; Non-Cash Collateral Value Received</u>
Fixed Income	\$ 274,689,711	\$ 282,088,080
Equities	<u>176,005,798</u>	<u>182,141,633</u>
<b>Total</b>	<b><u>\$ 450,695,509</u></b>	<b><u>\$ 464,229,713</u></b>



### Note 6: Retirement Plan for Employees of the System

Full-time employees of Kentucky Teachers' Retirement System (KTRS) participate in either KTRS or Kentucky Employees Retirement System. Both plans are multiple-employer cost sharing defined benefit retirement annuity plans. All KTRS employees in positions requiring a four-year degree are covered under KTRS. The contribution rates and required employer matching are the same as state agency employers in the System. These rates, the plan description and funding policy are fully disclosed in the notes to the financial statements.

The System's annual required contributions for KTRS employee members for the fiscal years 2013, 2012 and 2011 were \$574,432, \$533,378, and \$469,896 respectively. KTRS contributed one hundred percent (100%) of the required contribution each year.

All other KTRS employees are covered under the Kentucky Employee Retirement System (KERS) in the Non-Hazardous Employees' Pension Plan. The plan provides for retirement, disability, and death benefits to plan members. Retirement benefits may be extended to beneficiaries of plan members under certain circumstances. Per KRS 61.565(3), contribution rates shall be determined by the Board on the basis of an annual actuarial valuation. Rates may be amended by the Board as needed. The System's administrative budget and employer contribution rates are subject to the approval of the Kentucky General Assembly. Employee contribution rates are set by the statute and may be changed only by the Kentucky General Assembly.

Members of KERS who joined prior to July 1, 2008, are required to contribute five percent (5%) of their annual creditable compensation for the fiscal years 2013, 2012 and 2011 and members who joined on or after July 1, 2008 contribute an additional one percent (1%). As the employer, KTRS is required to contribute the annual actuarially determined rate of the creditable compensation (or the rate approved by legislators). The approved rate for the fiscal years 2013, 2012 and 2011 were 23.61 percent, 19.82 percent and 16.98 percent and the System's annual required contributions to KERS were \$331,989, \$350,869, and \$241,899 respectively. KTRS contributed one hundred percent (100%) of the required contributions for each year.

KERS issues a publicly available financial report that may be obtained by writing Kentucky Retirement System, 1260 Louisville Road, Frankfort, Kentucky 40601-6124.

### Note 7: Other Funds

#### A. 403(B) TAX-SHELTERED ANNUITY PLAN

##### Plan Description

KTRS has, in prior years, administered a salary deferral program as permitted by section 403(b) of the Internal Revenue Code. Under this program members were able to voluntarily defer a portion of their compensation within the limits established by the applicable laws and regulations. However, the System's Board of Trustees determined that the cost of providing the necessary services to assure the System of continuing compliance with these laws and regulations was not economically feasible due to the limited participation in the program by the System's members. The Board decided, therefore, to discontinue offering the program as of April 30, 1997. Members who were not receiving annuities from their account as of April 30, 1997, were able to transfer their respective accounts directly into other tax-sheltered plans on a tax-free basis. As of June 30, 2013, the twelve members who are receiving annuities will continue to receive distributions according to the terms of their respective elections.

## FINANCIAL SECTION

---

*Note 7: Other Funds continued . . .*

### B. SUMMARY OF SIGNIFICANT POLICIES

**Basis of Accounting** - The Tax-sheltered Annuity Plan financial statements are prepared using an accrual basis of accounting. Contributions are no longer being accepted into the plan; therefore, there are no receivables to be recognized.

**Method Used to Value Investments** - The short-term investments are reported at cost, which approximates fair value.

### C. SUPPLEMENTAL BENEFIT FUND

The Supplemental Retirement Benefit Fund is a qualified governmental excess benefit arrangement as described in Section 415 of the Internal Revenue Code. In accordance with KRS 161.611 and KRS 161.420(8), KTRS is authorized to provide a supplemental retirement benefit fund for the sole purpose of enabling the employer to apply the same formula for determining benefits payable to all members of the retirement system employed by the employer, whose benefits under the retirement system are limited by Section 415 of the Internal Revenue Code of 1986, as amended from time to time. Funding of benefits payable under this fund are provided by the state, as employer, and are segregated from funds that are maintained by KTRS for payment of the regular benefits provided by the retirement system.

### D. JUNITA LOSEY SCHOLARSHIP BEQUEST

Junita Losey, a retired teacher, designated KTRS as a residuary beneficiary of her estate and expressed a desire that KTRS establish a scholarship program for Kentucky students studying to be teachers. Ms. Losey died in 1997 and thereafter her estate provided a scholarship bequest to KTRS. The scholarship bequest has at all times been segregated from funds that are maintained by KTRS for payment of the regular benefits provided by the retirement system. The Scholarship Committee of the System's Board of Trustees meets each December to consider scholarship standards and administration of the scholarship bequest.

## Note 8: Medical Insurance Plan & Post-Employment Benefits

### A. PLAN DESCRIPTION

In addition to the retirement annuity plan described in Note 1, Kentucky Revised Statute 161.675 requires KTRS to provide access to post-employment healthcare benefits for eligible members and dependents. The KTRS medical plan is funded by employer and member contributions. Changes made to the medical plan may be made by the KTRS Board of Trustees, the Kentucky Department of Employee Insurance and the General Assembly.

The KTRS medical plan is funded by employee contributions to an account established pursuant to 26 U.S.C. sec. 401(h). Additional funding is derived from the Kentucky Teachers' Retirement System insurance trust fund that went into effect on July 1, 2010. The insurance trust fund provides a trust separate from the account established pursuant to 26 U.S.C. sec. 401(h). The insurance trust fund includes employer and retired member contributions required under KRS 161.550 and KRS 161.675(4)(b).

To be eligible for medical benefits, the member must have retired either for service or disability. The KTRS medical plan offers coverage to members under the age of 65 through the Kentucky Employees Health Plan administered by the Kentucky Department of Employee Insurance. KTRS retired members

*Note 8: Medical Insurance Plan & Post-Employment Benefits continued . . .*

are given a supplement to be used for payment of their health insurance premium. The amount of the member's supplement is based on a contribution supplement table approved by the KTRS Board of Trustees. The retired member pays premiums in excess of the monthly supplement. The Commonwealth of Kentucky bears risk for excess claims expenses that exceed the premium equivalents charged for the Kentucky Employees Health Plan. Once retired members and eligible spouses attain age 65 and are Medicare eligible, coverage is obtained through the KTRS Medicare Eligible Health Plan.

At June 30, 2013, KTRS insurance covered 36,777 retirees and 7,053 dependents. There are 208 participating employers and 74,831 active members contributing to the medical plan.

**B. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

**Basis of Accounting**

The KTRS medical plan financial statements are prepared using the accrual basis of accounting. Member contributions and employer matching are recognized in the fiscal year due.

Healthcare premiums charged to retired members are recognized when due and any premiums collected in advance are recognized as a liability.

**Method Used to Value Investments**

Since the investments are all short-term investments they are reported at cost, which approximates fair value.

**C. CONTRIBUTIONS**

The post-employment medical benefit provided by KTRS is financed on a pre-funded basis beginning July 1, 2010 with the implementation of the "Shared Responsibility" legislation. In order to fund medical benefits, active member contributions are matched by the state at .75% of members' gross salaries. Members contributed 1.75% of gross payroll to the KTRS medical plan and beginning July 1, 2010 the contribution increases incrementally to 3.75% by July 1, 2015 under the Shared Responsibility Plan. Also, the premiums collected from retirees and investment income contributes to funding the plan. The KTRS medical plan received \$152,400,000 in fiscal year 2013 in funding from the state, which was contributed to the insurance trust fund. This transitional funding and increased contributions are for the 2013 and 2014 fiscal years.

**D. FUNDED STATUS AND FUNDING PROGRESS**

The funded status of the Medical Insurance Plan as of the most recent actuarial valuation date is as follows:

Schedule of Funding Progress (Dollar amount in thousands)						
Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liabilities	Unfunded Actuarial Accrued Liabilities (UAAL) (B-A)	Funded Ratio (A/B)	Covered Payroll	UAAL As a % of Covered Payroll [(B-A)/C]
	A	B			C	
6/30/2013	\$ 412,185	\$ 3,521,073	\$ 3,108,888	11.7%	\$ 3,480,066	89.3%

## FINANCIAL SECTION

### Note 8: Medical Insurance Plan & Post-Employment Benefits continued . . .

Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality, and the healthcare cost trend. Actuarially determined amounts are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future. The schedules of funding progress, presented as required supplementary information following the notes to the financial statements, present multiyear trend information about whether the actuarial values of plan assets are increasing or decreasing over time relative to the actuarial accrued liabilities for benefits.

The accompanying schedule of employer contributions present trend information about the amounts contributed to the plan by employers in comparison to the ARC, an amount that is actuarially determined in accordance with the parameters of GASB Statement 43. The ARC represents a level of funding that, if paid on an ongoing basis, is projected to cover normal cost for each year and amortize any unfunded actuarial liabilities (or funding excess) over a period not to exceed thirty years.

Projections of benefits for financial reporting purposes are based on the substantive plan (the plan as understood by the employer and plan members) and include the types of benefits provided at the time of each valuation and the historical pattern of sharing of benefit costs between the employer and plan members to that point. The actuarial methods and assumptions used include techniques that are designed to reduce the effects of short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations.

Significant actuarial methodologies and assumptions employed as of the June 30, 2013 valuation date include the following:

<u>Actuarial Cost Method</u>	<u>Actuarial Value of Assets</u>	<u>Assumed Inflation Rate</u>	<u>Investment Rate of Return</u>	<u>Amortization Method</u>	<u>Remaining Amortization Period</u>
Entry Age	Market value of assets	3.50%	8.00%	Level percent of pay, open	30 years
<b>Medical Trend Assumption</b>			<u>Pre-Medicare</u>	<u>Medicare</u>	
Fiscal Year Ending 6/30/2014			8.50%	0.00%	
Fiscal Year Ending 6/30/2015			7.50%	6.00%	
Ultimate Trend Rate			5.00%	5.00%	
Year of Ultimate Trend Rate			2019	2018	

### E. INCURRED BUT NOT REPORTED CLAIMS LIABILITIES

KTRS recognizes estimates of liabilities for self-insured unpaid claims that have incurred (both reported and unreported) using the development method. This method uses past observed patterns of time between the date the claim is incurred and the date the claim is paid to estimate incurred claims from available paid claim information.

The following schedule shows the change in the claims and liability and the claims activity for the years ended June 30, 2013 and 2012.

Note 8: Medical Insurance Plan & Post-Employment Benefits continued . . .

	<u>2013</u>	<u>2012</u>
Beginning Unpaid Claims Liability	\$ 67,000	\$ 403,000
Current Year Claims and Changes in Estimates	196,676,714	189,926,846
Claims Payments	<u>(196,606,714)</u>	<u>(190,262,846)</u>
<b>Ending Unpaid Claims Liability</b>	<b><u>\$ 137,000</u></b>	<b><u>\$ 67,000</u></b>

**Note 9: Life Insurance Plan**

**A. PLAN DESCRIPTION**

KTRS administers the Life Insurance Plan as provided by KRS 161.655 to provide life insurance benefits to retired and active members. This benefit is financed by actuarially determined contributions from the 208 participating employers. The benefit is \$5,000 for members who are retired for service or disability, and \$2,000 for active contributing members.

**B. SUMMARY OF SIGNIFICANT POLICIES**

**Basis of Accounting**

The Life Insurance Plan financial statements are prepared using the accrual basis of accounting. Employer contributions are recognized in the fiscal year due.

**Method Used to Value Investments**

Life Insurance Plan investments are reported at fair value. The short-term securities are carried at cost, which approximates fair value. Fixed income is generally valued based on published market prices and quotations from national security exchanges and securities pricing services.

**C. CONTRIBUTIONS**

To finance the life insurance benefit a portion of the employer contribution rate is directed to the plan as recommended by the KTRS's actuary. For both fiscal years 2013 and 2012, this rate has been .05% of active members' payroll.

**D. FUNDED STATUS AND FUNDING PROGRESS**

The funded status of the Life Insurance Plan as of the most recent actuarial valuation date is as follows:

Schedule of Funding Progress (Dollar amount in thousands)						
Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liabilities (AAL)	Unfunded Actuarial Accrued Liabilities (UAAL) (B-A)	Funded Ratio	Covered Payroll	UAAL As a % of Covered Payroll
	A	B		(A/B)	C	[(B-A)/C]
6/30/2013	\$ 94,863	\$ 94,325	\$ (538)	100.6%	\$ 3,480,066	(0.02)%

## FINANCIAL SECTION

### Note 9: Life Insurance Plan continued . . .

Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. The required supplementary schedules following the notes to the financial section contain more actuarial information. Significant actuarial methodologies and assumptions employed as of the June 30, 2013 valuation date include the following:

Actuarial Cost Method	Actuarial Value of Assets	Assumed Inflation Rate	Investment Rate of Return	Projected Salary Increases	Amortization Method	Remaining Amortization Period
Entry Age	Market value of assets	3.50%	7.50%	4.00%	Level percent of pay, open	30 years

### Required Supplementary Information

#### Defined Benefit Plan – Schedule of Funding Progress

(Dollar amount in thousands)

Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liabilities (AAL)	Unfunded Actuarial Liabilities (UAAL) (B-A)	Funded Ratio (A/B)	Covered Payroll	UAAL as a % of Covered Payroll [(B-A)/C]
	A	B	(B-A)	(A/B)	C	[(B-A)/C]
6/30/2008	\$ 15,321.3	\$ 22,460.3	\$ 7,139.0	68.2%	\$ 3,190.3	223.8%
6/30/2009	14,886.9	23,400.3	8,514.4	63.6	3,253.1	261.7
6/30/2010	14,851.3	24,344.3	9,493.0	61.0	3,321.6	285.8
6/30/2011	14,908.1	25,968.7	11,060.6	57.4	3,451.8	320.4
6/30/2012	14,691.4	26,973.9	12,282.5	54.5	3,479.6	353.0
6/30/2013	14,962.8	28,817.2	13,854.4	51.9	3,480.1	398.1

The amounts reported in this schedule of funding progress do not include assets or liabilities for postemployment benefits, nor are the assets and liabilities of the tax-sheltered annuity plan included.

#### Defined Benefit Plan – Schedule of Employer Contributions

Fiscal Year Ended	Annual Required Contributions (A)	Actual Employer Contributions (B)	Percentage Contributed (B) / (A)
6/30/2008	\$ 563,789,483	\$ 466,247,783	83%
6/30/2009	600,282,735	442,549,935	74
6/30/2010	633,938,088	479,805,088	76
6/30/2011	678,741,428	1,037,935,993*	153
6/30/2012	757,822,190	557,339,552	74
6/30/2013	802,984,644	568,233,446	71

\* Includes Pension Obligation Bond proceeds of \$465,384,165

Note 9: Life Insurance Plan continued . . .

Note 9: Required Supplementary Information continued . . .

Medical Insurance Fund – Schedule of Funding Progress						
(Dollar amount in millions)						
Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liabilities (AAL)	Unfunded Actuarial Accrued Liabilities (UAAL)	Funded Ratio	Covered Payroll	UAAL as a % of Covered Payroll
	A	B	(B-A)	(A/B)	C	[(B-A)/C]
6/30/2008	\$ 185.9	\$ 6,434.5	\$ 6,248.6	2.9%	\$ 3,190.3	195.9%
6/30/2009	229.1	6,454.7	6,225.6	3.5	3,253.1	191.4
6/30/2010	241.2	3,206.8	2,965.6	7.5	3,321.6	89.3
6/30/2011	294.8	3,423.1	3,128.3	8.6	3,451.8	90.6
6/30/2012	338.7	3,594.5	3,255.8	9.4	3,479.6	93.6
6/30/2013	412.2	3,521.1	3,108.9	11.7	3,480.0	89.3

The amounts reported in this schedule of funding progress do not include assets or liabilities for the defined benefit or life insurance plans, nor are the assets and liabilities of the tax-sheltered annuity plan included.

Medical Insurance Plan – Schedule of Employer Contributions					
Fiscal Year Ended	Annual Required Contribution	Actual Employer Contribution	Retiree Drug Subsidy Contribution	Total Contribution	Percentage of ARC Contribution
	(A)	(B)	(C)	(B) + (C)	[(B) + (C)]/(A)
6/30/2008	\$ 395,282,164	\$ 148,954,644	\$ 11,911,565	\$ 160,866,209	40.7%
6/30/2009	467,312,904	164,480,119	13,611,748	178,091,867	38.1
6/30/2010	457,054,117	158,765,496	14,614,285	173,379,781	37.9
6/30/2011	477,723,070	188,453,929	280,585	188,734,514	39.5
6/30/2012	470,217,067	177,450,206	297,639	177,747,845	37.8
6/30/2013	186,725,823	166,611,420		166,611,420	89.2

Life Insurance Fund – Schedule of Funding Progress						
(Dollar amount in thousands)						
Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liabilities (AAL)	Unfunded AAL (UAAL)	Funded Ratio	Covered Payroll	UAAL As a % of Covered Payroll
	A	B	(B-A)	(A/B)	C	[(B-A)/C]
6/30/2008	\$ 77,658	\$ 84,265	\$ 6,607	92.2%	\$ 3,190,332	0.21%
6/30/2009	84,703	90,334	5,631	93.8	3,253,077	0.17
6/30/2010	87,905	92,091	4,186	95.5	3,321,614	0.13
6/30/2011	88,527	88,088	(439)	100.5	3,451,756	(0.01)
6/30/2012	92,241	91,398	(843)	100.9	3,479,567	(0.02)
6/30/2013	94,863	94,325	(538)	100.6	3,480,066	(0.02)

The amounts reported in this schedule of funding progress do not include assets or liabilities for the defined benefit or life insurance plans, nor are the assets and liabilities of the tax-sheltered annuity plan included.

Life Insurance Plan – Schedule of Employer Contributions			
Fiscal Year Ended	Annual Required Contribution (ARC)	Actual Employer Contribution (B)	Percentage of ARC Contributed (B) / (A)
6/30/2008	\$ 1,914,199	\$ 5,411,249	282.7%
6/30/2009	1,498,076	5,455,473	364.2
6/30/2010	1,992,969	1,966,826	98.7
6/30/2011	1,725,878	1,668,822	96.7
6/30/2012	1,732,831	1,684,711	97.2
6/30/2013	1,739,908	1,680,495	96.6

**Required Supporting Schedules**

**Supporting Schedule 1  
Schedule of Administrative Expenses  
Year Ended June 30, 2013**

<u>Expense</u>	<u>Amount</u>
Salaries	\$ 6,670,002
Other Personnel Costs	760,113
Professional Services and Contracts	331,275
Utilities	93,986
Rentals	18,782
Maintenance	195,890
Postage & Related Services	420,965
Printing	74,389
Insurance	138,029
Miscellaneous Services	119,064
Telecommunications	33,068
Computer Services	108,199
Supplies	77,338
Depreciation	333,401
Travel	44,343
Dues & Subscriptions	45,113
Miscellaneous Commodities	16,730
Furniture, Fixtures, & Equipment not Capitalized	94,090
Compensated Absences	<u>102,464</u>
<b>Total Administrative Expenses</b>	<b><u>\$ 9,677,241</u></b>

**Supporting Schedule 2  
Schedule of Professional Fees for Year Ended June 30, 2013**

<u>Professional</u>	<u>Nature of Service</u>	<u>Amount</u>
Cavanaugh Macdonald Consulting	Actuarial Services	\$ 207,604
Mountjoy Chilton Medley	Auditing Services	39,000
Farmers Bank	Bank Services	120
International Claim Specialist	Investigative Services	960
Groom Law Group	Attorney Services	2,000
Ice Miller	Attorney Services	40,934
Reinhart, Boerner VanDeuren	Attorney Services	216
Wyatt Tarrant and Combs	Attorney Services	32,273
Peritus	Communications	8,168
<b>Total Professional Services and Contracts</b>		<b><u>\$ 331,275</u></b>



Note 9: Required Supplementary Information continued . . .

**Supporting Schedule 3**  
**Schedule of Contracted Investment Management**  
**Expenses and Miscellaneous Expenses**  
**Year Ended June 30, 2013**

	<u>Pension</u>	<u>Medical</u>	<u>Total</u>
<b>Equity Managers</b>			
Baillie Gifford	\$ 2,152,311	\$	\$ 2,152,311
Baring Asset Management, Inc.	2,197,067		2,197,067
Black Rock	62,943	11,948	174,891
GE Asset Management	800,000		800,000
Todd-Veredus Asset Management LLC	1,271,143		1,271,143
UBS Global Asset Management	2,798,232		2,798,232
Wellington Management Company	2,827,337		2,827,337
Total Equity Managers	12,109,033	11,948	12,220,981
<b>Fixed Income Managers</b>			
Fort Washington Investment Advisors	160,533		160,533
Galliard Capital Management	287,976		287,976
Total Fixed Income Managers	448,509		448,509
<b>Real Estate</b>	3,956,528		3,956,528
<b>Additional Categories</b>	4,122,473	152,281	4,274,754
<b>Alternative Investments</b>	10,958,668	283,528	11,242,196
<b>Custodian</b>			
The Bank of New York Mellon	332,982	7,356	340,338
<b>Consultant</b>			
Hewitt Ennis Knupp, Inc.	358,850		358,850
<b>Legal &amp; Research</b>			
Stoll, Keenon, Ogden, PLLC	888		888
Wolters Kluwer	3,952		3,952
Ice Miller	65,678		65,678
Bevis Longstreth	51,983		51,983
George Philip	33,269		33,269
Total Legal & Research	155,770		155,770
<b>Other</b>			
Subscription/Services	700,684	926	701,610
<b>Total Contracted Investment Management Expenses</b>	<b>\$ 33,143,497</b>	<b>\$ 556,039</b>	<b>\$ 33,699,536</b>



Mountjoy  
Chilton  
Medley

**INDEPENDENT AUDITORS REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH GOVERNMENT AUDITING STANDARDS**

To the Board of Trustees  
Teachers' Retirement System of the State of Kentucky  
Frankfort, Kentucky

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in Government Auditing Standards issued by the Comptroller General of the United States the financial statements of the Teachers' Retirement System of the State of Kentucky, which comprise the statement of plan net position as of June 30, 2013, and the related statements of changes in plan net position for the year then ended, and the related notes to the financial statements, and have issued our report thereon dated December 16, 2013.

**Internal Control Over Financial Reporting**

In planning and performing our audit of the financial statements, we considered Teachers' Retirement System of the State of Kentucky's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Teachers' Retirement System of the State of Kentucky's internal control. Accordingly, we do not express an opinion on the effectiveness of the Teachers' Retirement System of the State of Kentucky's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weakness or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

**Compliance and Other Matters**

As part of obtaining reasonable assurance about whether Teachers' Retirement System of the State of Kentucky's financial statements are free of material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

**Purpose of this Report**

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Teachers' Retirement System of the State of Kentucky's internal control or on compliance. This report is an integral part of an audit performed in accordance with Government Auditing Standards in considering the Teachers' Retirement System of the State of Kentucky's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

/s/ Mountjoy Chilton Medley LLP

Lexington, KY  
December 16, 2013

**Louisville**  
2000 Meidinger Tower  
462 South Fourth Street  
Louisville, KY 40202

**Lexington**  
175 East Main Street  
Suite 200  
Lexington, KY 40507

**Frankfort**  
150 Flynn Avenue, Suite 100  
P.O. Box 5630  
Frankfort, KY 40602

**Cincinnati**  
1440 PNC Center  
201 East Fifth Street  
Cincinnati, OH 45202

888.587.1719 | www.mcmcpa.com  
An Independent Member of Baker Tilly International

---

# Investment Section

---

for Fiscal Year ending June 30, 2013

**REPORT ON INVESTMENT ACTIVITY**

This report is prepared by the Investment staff of the  
Kentucky Teachers' Retirement System.

**Mr. Paul L. Yancey, CFA**  
Chief Investment Officer

**Mr. Philip L. Webb**  
Director of Investment Accounting

**INVESTMENT COMMITTEE**

**Mr. Ronald L. Sanders**  
Chairperson

**Ms. Barbara G. Sterrett**  
Vice-Chairperson

**Mr. Hollis Gritton**  
Member

**Dr. Tom Shelton**  
Member

**Ms. Laura A. Zimmerman**  
Member

**Mr. Bevis Longstreth**  
Investment Advisor to KTRS Investment Committee

**Mr. George Philip**  
Investment Advisor to KTRS Investment Committee

**EXECUTIVE INVESTMENT STAFF**

**Mr. Gary L. Harbin, CPA**  
Executive Secretary

**Mr. Paul L. Yancey, CFA**  
Chief Investment Officer



December 1, 2013

**To the members of the Board of Trustees and participants of the Teachers' Retirement System of Kentucky:**

The KTRS investment program produced a total return of 14.1% in the twelve-month period ended June 30, 2013. This exceeded the policy benchmark return of 12.9% and ranked in the top 10% of returns of a universe of 62 pension funds with over \$1 billion in assets. The outperformance was attributed to successful application of the program's strategic asset allocation policy and the strong relative performance of individual asset classes.

A relatively high weighting to equities, at 63.2% of assets as of June 30, drove the strong performance. The system's domestic equities returned 22.7% versus 21.1% for the S&P 1500 Index. The system's international equities returned 14.7% versus 14.1% for the MSCI All Country World (ex-U.S) Index. Gains were harvested from the equity allocation over the course of the fiscal year as rising prices pushed total market value near the top of the asset class's strategic range.

Fixed income returns were less attractive during the fiscal year, particularly at the end of the period as interest rates rose. The system's fixed income portfolio was resilient during the fiscal year, returning 0.7%, vs. the -0.6% return of Barclay's Government Credit Index, thanks to less interest rate risk exposure and greater exposure to corporate bonds, which outperformed government bonds. A reduced overall exposure to the asset class also helped overall returns as well. The program's allocation to fixed income declined from 31.1% of total assets as of June 30, 2010 to 21.3% as of June 30, 2013.

The program's alternative investments, which include real estate, private equity, and alternative credit strategies, also performed well over the fiscal year. Collectively, the strategies represented 13.1% of the total assets as of June 30. These growing allocations have absorbed the majority of the assets removed from fixed income in recent years.

Markets were heavily influenced by an unconventional Federal Reserve policy over the past fiscal year that kept interest rates at artificially low levels since the financial crisis of 2008. Near the end of the period, almost five years after the peak of the crisis, official talk of a foreseeable reduction in monetary stimulus sent interest rates upward and halted the equity markets' upward surge. The markets view an imminent reduction and eventual end to monetary stimulus with trepidation in light of a stronger financial system but soft economic growth.

Over the trailing five-year period, KTRS' investment returns rank in the top 7% of the pension fund universe cited earlier. We believe consistently strong relative returns in recent years have been the result of a successful implementation of a sound philosophy rooted in fundamental value and a "best practices" culture. This philosophy and process has led the investment program to respond well to changing investment opportunities and risks since the financial crisis.

As always, we are grateful to be a part of this process. We sincerely thank the Board of Trustees, Investment Committee, and investment staff for their continued confidence.

Respectfully,

Patrick J. Kelly, CFA, CAIA

Partner

**Hewitt EnnisKnupp, Inc.**

Aon Center | 200 East Randolph Street | Suite 1500 | Chicago, IL 60601  
t 312.381.1200 | f 312.381-1366 | www.hewitthenisKnupp.com

## RETIREMENT ANNUITY TRUST FUND

### INVESTMENT POLICY SUMMARY

The KTRS Board of Trustees has a statutory obligation to invest the members' assets in a manner consistent with the fiduciary standards set forth in the "prudent person rule." Consistent with these fiduciary standards, the board has recognized certain principles that guide investment-related decisions. First, the board will preserve the long-term corpus of the fund. Second, the board will seek to maximize total investment return within prudent risk parameters. Third, the board will act in the exclusive interest of the members and beneficiaries of the System. This broad summary is a reference point for management of retirement assets and outlines the investment philosophy and practice of KTRS.

### INVESTMENT OBJECTIVES

KTRS invests the members' funds in several diverse classes of assets, including equities, bonds and real estate. This diversification helps us earn the highest possible long-term rate of return within appropriate risk levels. In turn this enables us to pay guaranteed benefits to members and their beneficiaries at the lowest possible cost to participating employers and the taxpayers that fund them. Generally, the retirement system's liabilities will not be paid for as many as 30-40 years. Therefore, as a long-term investor, KTRS holdings can withstand some short-term volatility. The retirement annuity trust fund's long-term investment objective is to achieve an annualized rate of return of 7.5%.

### RISK CONTROLS

The KTRS investment program faces various risks; however, the primary risk to KTRS is that the assets will not support liabilities over long periods of time. In order to control this risk and any other risks, the board has taken the following steps on an ongoing basis:

- Actuarial valuations are performed each year to evaluate the funding objectives of the retirement system. In addition, every ten years an external audit of the actuary is conducted to ensure that the assumptions made and calculation methods used are resulting in properly computed liabilities of the System.
- Asset/liability studies are conducted approximately every five years. These studies ensure that the portfolio design is structured to meet the liabilities of the retirement system.
- The KTRS Investment Committee adopts, and regularly reviews, detailed investment strategies for implementation of the investment policy.

### ASSET ALLOCATION

Operating within relevant regulatory limitations, the retirement system's investment consultant, on an annual basis, presents to the Investment Committee for approval target percentages and ranges for the retirement system's various asset classes. Annually approved asset allocation parameters serve to balance the retirement system's liquidity requirements, volatility tolerance, and return requirements to meet both short-term and long-term obligations. The retirement system's assets are diversified across a variety of asset classes, investment management styles, and individual securities in order to reduce volatility and enhance the potential of the investment portfolio to achieve the retirement system's long-term goals.

Asset allocation decisions for pension plans are highly dependent on the unique characteristics of a particular plan. Factors such as liability requirements, the level of funding, and statutory investment

restrictions are important considerations within the context of the asset allocation decision making process. Consequently, asset allocations may differ markedly between various pension plans due to their unique circumstances.

The information below shows the retirement system's asset allocation by fair value as of June 30, 2013, and June 30, 2012, as well as the target and strategic range for each asset class for fiscal year 2013.

**Retirement Annuity Trust**

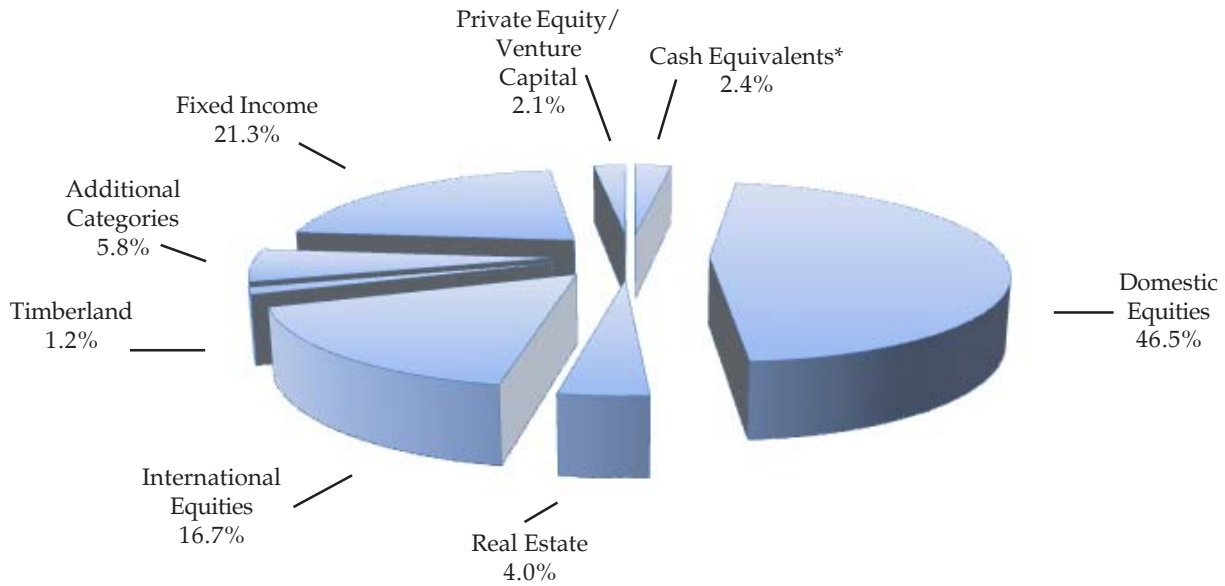
	<u>June 30, 2013*</u>	<u>%</u>	<u>June 30, 2012</u>	<u>%</u>
Cash Equivalents**	\$ 386,683,234	2.4	\$ 431,810,127	2.9
Fixed Income	3,434,080,377	21.3	3,391,777,780	23.0
Domestic Equities	7,511,572,763	46.5	7,044,415,411	47.5
International Equities	2,698,774,335	16.7	2,309,883,058	15.6
Real Estate	642,611,173	4.0	586,800,767	4.0
Private Equity	343,259,092	2.1	265,833,651	1.8
Timberland	197,480,029	1.2	185,432,686	1.2
Additional Categories	<u>935,376,476</u>	<u>5.8</u>	<u>587,848,810</u>	<u>4.0</u>
<b>Totals</b>	<b>\$ 16,149,837,479</b>	<b>100.0</b>	<b>\$ 14,803,802,290</b>	<b>100.0</b>

\* Includes Life Insurance Trust values of \$88,623,343, Tax Shelter Annuity value of \$391,095 and 401(h) value of \$2,193,497.

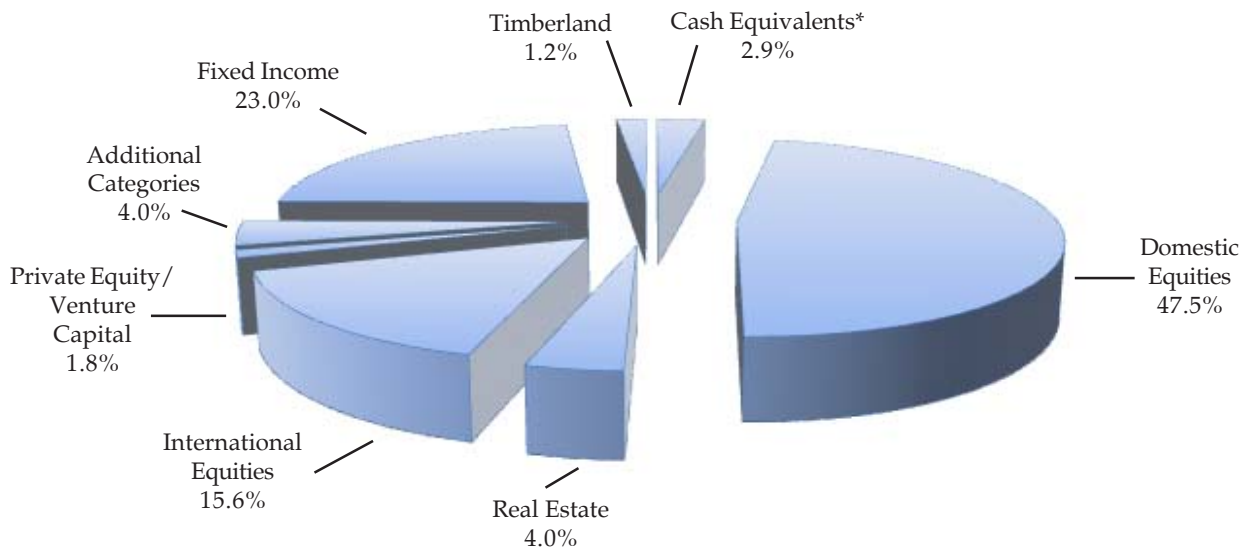
\*\* Reflects only cash balances not allocated to other asset classes. Uninvested cash balances allocated to various asset classes are represented in the respective asset classes.

**Distribution of Investments  
Retirement Annuity Trust\*\*  
Fair Values**

**June 30, 2013**



**June 30, 2012**



\* Reflects only cash balances not allocated to other asset classes. Uninvested cash balances allocated to various asset classes are represented in the respective asset classes.

\*\* Includes Life Insurance Trust values.



Strategic Weightings by Asset Class				
Asset Class	Regulatory Limits (Mkt Value)	Strategic Range (Mkt)	Target (Mkt)	6/30/2013 (Mkt)**
Cash		1 - 3%	2.0%	2.4%
Fixed Income		18 - 24	21.0	21.3
Government/Agency/Other	Unlimited			10.3
Corporate	35%			11.0
Equity	65%	58 - 65	62.0	63.2
Domestic Large Cap		35 - 45	40.0	39.5
Domestic Mid Cap		1 - 5	3.0	4.3
Domestic Small Cap		1 - 3	2.0	2.7
International***	30%	14 - 20	17.0	16.7
Real Estate	10%	2 - 6	4.0	4.0
Alternative Investments*	10%	2 - 8	5.0	3.3
Additional Categories	15%	3 - 9	<u>6.0</u>	<u>5.8</u>
<b>TOTAL</b>			<b>100.0%</b>	<b>100.0%</b>
<p>* Includes private equity, venture capital, timberland, and infrastructure investments.  ** Starting with 7/2008, Cash is only the unallocated cash balance. Manager cash balances will be included with the asset type of the managers investments.  *** As of 6/30/13, 18.9% of Total International Equities was invested in Emerging Markets.</p>				

PORTFOLIO RETURNS

For the fiscal year, the retirement annuity trust fund's portfolio generated a total return of 14.1%, exceeding the policy benchmark return of 12.9%. Domestic equities returned 22.7% versus 21.1% for the Standard & Poor's 1500 Index, while international equities returned 14.7% versus 14.1% for the MSCI All Country World (Ex-US) Index. Fixed income investments outperformed, returning 0.7% versus -0.6% for the Barclays Government/Credit Index.

Less traditional asset classes such as real estate, private equity, timberland, and alternative credit are beginning to contribute meaningfully to total return as those programs are expanded.

The table below details historical performance for the retirement annuity trust fund and its component asset classes for the period ended June 30, 2013. The retirement annuity trust fund's returns were generated by the Segal Rogers Casey performance reporting system using a time-weighted rate of return calculation based upon the modified Dietz methodology.

	1 Yr <sup>(2)</sup>	3 Yr <sup>(2)</sup>	5 Yr <sup>(2)</sup>	10 Yr <sup>(2)</sup>	20 Yr <sup>(2)</sup>
<b>Total Fund</b>					
KTRS	14.1	12.4	6.6	6.4	7.3
Policy Index <sup>(1)</sup>	12.9	12.1	6.0	-	-
<b>Equities</b>					
Domestic Equities	22.7	18.7	7.4	7.7	9.1
S & P Blended Index <sup>(3)</sup>	21.1	18.6	7.3	7.5	8.7
International Equities <sup>(5)</sup>	14.7	9.9	1.6	-	-
MSCI AC World (Ex US)	14.1	8.5	-0.3	-	-
Total Equities	20.5	16.4	6.1	7.2	8.8
<b>Fixed Income</b>					
Total Fixed Income	0.7	5.0	6.7	5.2	6.3
Barclays Govt/Credit Index	-0.6	3.9	5.3	4.4	5.9
<b>Real Estate</b>					
Non-Core Real Estate	30.1	-	-	-	-
NCREIF Index	10.7	-	-	-	-
Core Real Estate	9.7	14.9	-2.6	-	-
NCREIF ODCE	12.0	14.9	-0.2	-	-
Triple Net Lease Real Estate	8.3	7.9	8.4	8.9	9.0
CPI plus 2%	3.8	4.4	3.4	4.5	4.4
<b>Alternative Investments</b>					
Private Equity <sup>(4)</sup>	8.7	14.0	10.4	-	-
Timberland	7.7	5.8	3.8	-	-
NCREIF Timberland Index	9.4	3.6	2.1	-	-
<b>Cash</b>					
Cash (Unallocated)	0.1	0.1	0.3	2.1	3.4
90 Day Treasury Bill	0.1	0.1	0.3	1.7	3.0
<b>Additional Categories</b>					
<b>High Yield</b>					
High Yield Bond Fund	8.8	10.6	-	-	-
B of A Merrill Lynch High Yield Master II	9.6	10.4	-	-	-
<b>Alternative Credit</b>					
Special Situations Fund	11.4	-	-	-	-
KTRS Credit Fund	21.8	-	-	-	-
B of A Merrill Lynch High Yield Master II	9.6	10.4	-	-	-

(1) Prior to July 1, 2008, KTRS did not benchmark overall fund performance. Effective July 1, 2008, the Board of Trustees approved a Policy Index which represents the returns of appropriate benchmarks for the various asset classes weighted by the mid-point of the strategic range for the current fiscal year.

(2) Annualized

(3) Total Domestic Equity is benchmarked to a S & P Blended Index. Total domestic equity was benchmarked to the S & P 500 through the fiscal year ending 6/30/2007. As of 7/1/2007, domestic equity is benchmarked to the S & P 1500 Index since the System's domestic stock mix is most comparable to this index.

(4) For a period of five years private equity will be benchmarked against their own returns. The primary reason for this is that these investments have a minimum investment horizon of ten years and there is no market benchmark that would be expected to track these types of assets in their early years. Beginning five years after the commitment date, investments in this class shall be benchmarked versus the S & P 500 plus 3%, which is the System's long-term expected return for this asset class.

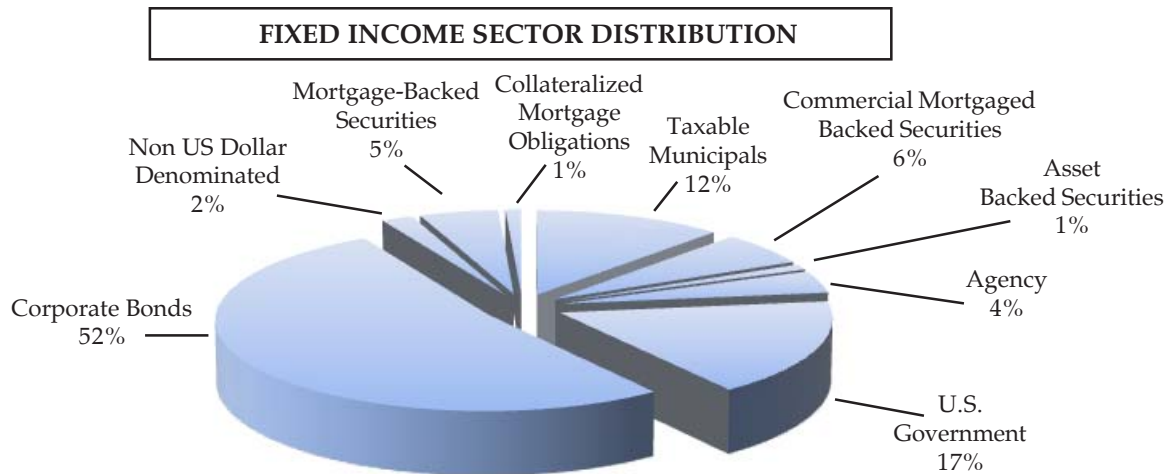
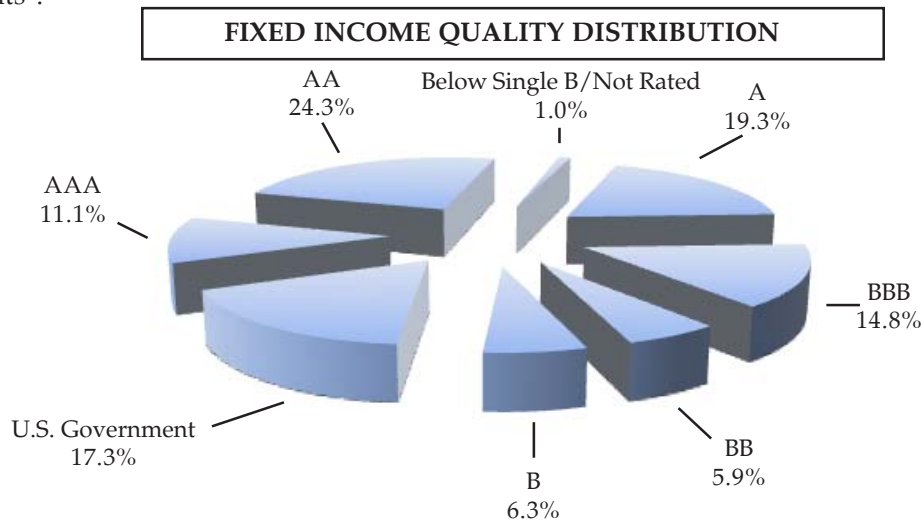
(5) As of June 30, 2013, 18.9% of Total International Equities was invested in emerging markets.

**FIXED INCOME INVESTMENTS**

As of June 30, 2013, the retirement annuity trust fund had approximately \$3.43 billion, 21.3% of total assets, in the fixed income category of investments. The retirement annuity trust fund's fixed income investments maintained the average investment grade rating required by administrative regulation as of June 30, 2013.

In addition, the retirement annuity trust fund had \$935.38 million, 5.8% of total assets, in other debt related investments under a regulatory provision which allows for up to 15% of assets in "additional categories of investments" approved by the Board of Trustees. Investments under this authorization included a high yield bond portfolio, an international fixed income portfolio, and a syndicated bank loan portfolio. Also under this provision are several alternative credit portfolios including a multi - strategy opportunistic credit portfolio as well as distressed debt and specialty lending funds.

The credit quality distribution for the retirement annuity trust fund is illustrated below. This chart includes the fixed income category of investments as well as the high yield bond, international fixed income, and the syndicated bank loan portfolios included in "additional categories of investments". Also illustrated below is the distribution of fixed income assets by sector, again including the high yield bond, international fixed income, and the syndicated bank loan portfolios held under "additional categories of investments".



### FIXED INCOME MARKET OVERVIEW

Interest rates on U.S. Treasury bonds tended to drift higher over most of the fiscal year, spiking upward sharply in May and June, 2013 on expectations of an imminent reduction of the Federal Reserve's quantitative easing program. Prices generally declined, with the Barclays U.S. Government / Credit Index returning -0.6% for the fiscal year. The retirement annuity trust fund's investment grade bonds were more resilient, returning 0.7%. The outperformance was driven by less duration (interest rate risk) than the benchmark and an overweighting to corporate bonds, which substantially outperformed government bonds.

Prices of long-term bonds dropped more than those with shorter maturities as long term rates rose more than short term rates. The spread between the 30 year and 2 year Treasury widened to 314 basis points after starting the year at 240 basis points. Due to a narrowing of risk premiums, corporate bonds outperformed U.S. Treasuries of similar duration. The Barclays U.S. Government index declined by 1.5% over the year, and the Barclays Corporate Investment Grade Index produced a positive 1.4% return over the same time period. High Yield bonds performed very well returning 9.6% for the year as measured by the B of A Merrill Lynch High Yield Master II Index.

Gross Domestic Product (GDP) grew 1.6% for the fiscal year ended June 30, 2013. Inflation, as measured by the GDP price deflator rose 1.5% for the fiscal year. The economy added an average of 180,000 jobs per month according to the Bureau of Labor Statistics' non-farm payrolls report. Normally, these rates of increase would be considered a good environment for fixed income securities, but, given the low level of real interest rates to begin the fiscal year, the slow growth environment was already priced into the market. As has been the case since the economic recovery began in 2009, the performance of domestic fixed income markets was driven more by the influence of the Federal Reserve than by the traditional economic fundamentals of growth and inflation.

In June of 2012, the Federal Reserve announced it would extend its bond purchase program, commonly referred to as Operation Twist, through the end of calendar year 2012 by adding an additional \$267 billion in long term bond purchases. When this program was completed in December of 2012, the Fed implemented another asset purchase program, pledging to purchase U.S. Treasury securities at an initial pace of \$45 billion per month for an indefinite time period. This latest asset purchase program is unique as there was no definitive date targeted by the Federal Reserve for ending the Treasury purchases. In addition, the Fed indicated it would continue its existing program to purchase \$40 billion per month in mortgage backed securities.

In its December 12, 2012 press release, the Fed outlined its rationale and expectations for the new asset purchase program. The Fed's statement indicated that it was concerned that "without sufficient policy accommodation, economic growth might not be strong enough to generate sustained improvement in labor market conditions", and that "these actions should maintain downward pressure on longer-term interest rates, support mortgage markets, and help to make broader financial conditions more accommodative".

Given the near term concerns outlined above, the Fed's asset purchase program was somewhat successful. The economy grew, albeit at a subdued pace, and continued to add jobs. Mortgage interest rates remained near historical lows while the median existing home sale price increased 18.8% from December 2012 to June 2013. The S & P 500 Index returned 15.3% from the Fed statement in December 2012 to the end of May 2013.

In May 2013 the Fed surprised the markets by suggesting that it may start to "taper" its program of purchasing Treasuries and mortgage backed securities. The market adjusted to this new guidance by pushing interest rates sharply higher, causing a substantial selloff in investment grade fixed income as the fiscal year came to a close.

Despite the recent increase in interest rates, the Fed's policy of keeping both short and longer term interest rates low has been supportive to many areas of the economy. However, low rates have left

investment grade bond prices higher than they would otherwise be. Currently, investment grade fixed income is an asset class with moderately unfavorable risk / reward characteristics and below average upside potential. The retirement system continues to adjust the structure of its fixed income portfolio to control risk and maintain required liquidity. Specifically, the retirement system continues to increase exposure to nontraditional debt-related investments, reduce exposure to investment grade fixed income, and limit interest rate risk.

### **EQUITY INVESTMENTS**

As of June 30, 2013 the retirement annuity trust fund's public equity investments had a fair value of \$10.21 billion, representing 63.2% of total assets. Strong equity returns over the fiscal year prompted several rebalancing sales to reduce equity exposure back to target levels and to raise cash to fund pension benefits. The retirement annuity trust fund divides its public equity into two broad categories: domestic and international.

The domestic portfolio had a fair value of \$7.51 billion as of June 30, representing 46.5% of total assets. This is a \$467 million increase over last year despite rebalancing sales. The benchmark for the domestic portfolio is the S&P 1500. The S&P 1500 is made up of three well known component indices based upon market capitalization: the S&P 500 large cap, S&P 400 mid cap, and the S&P 600 small cap. The retirement annuity trust fund's domestic equity holdings are comprised of eleven portfolios. Three of the portfolios are internal passively managed index portfolios benchmarked to the S&P 500, 400, and 600. The other eight portfolios are managed externally by four different asset managers, with each portfolio representing a specific strategy and measured against an appropriate benchmark. The collective array of portfolios provides diversification by capitalization, manager, style, and strategy.

The fair value of the international equity holdings as of June 30, 2013 was \$2.7 billion, representing 16.7% of total assets, up from 15.6% a year earlier. The benchmark for international equities is the Morgan Stanley Capital International All Country World Index ex US (MSCI ACWI ex US), which represents the markets of 24 developed countries and 21 emerging market countries. Five external asset managers manage the retirement annuity trust fund's international equities, one of which is a passively managed international index fund. The retirement annuity trust fund plans to continue increasing the international equity exposure during the coming fiscal year.

### **EQUITY MARKET OVERVIEW**

Stocks rallied steadily throughout fiscal year 2013. The upward trend was fairly consistent, with hiccups only in the fall of 2012 and the early summer of 2013. Returns of domestic stocks as measured by the S&P 1500 and Russell 2000 were 21.13% and 24.21%, respectively. Within the S&P 1500, small and mid-cap stocks were up 25.18%, while the large-cap S&P 500 was up 20.60%. Non-U.S. stocks also performed very well on the year, but with higher volatility and a steeper pullback at the end of the year. The Morgan Stanley Capital International (MSCI) World (ex-U.S.) Index returned 17.62%. The MSCI Emerging Markets Index was up only 3.23%.

The domestic markets were propelled by rising payrolls and declining unemployment in the first half of the year. In September the FOMC announced its plan to purchase \$40 billion per month of agency mortgage backed securities in addition to \$45 billion of U.S. Treasury securities. While this kept key interest rates low, markets dipped on lower consumer confidence due to negative expectations for the economy. Financial stocks were the biggest winners in the first half, posting a 13.28% gain in the first six months. Internationally there was a similar story as the European Central Bank and the Bank of Japan also initiated quantitative easing programs in September. This news, however, was much better received

## INVESTMENT SECTION

---

internationally as the MSCI EAFE and ACWI ex US posted much stronger returns in the first half. European markets, which had been in turmoil due to the ongoing Eurozone crisis, were stabilized by the ECB's bond purchase program. Asia also experienced a favorable reaction to QE, led by Japan, whose stocks rose 5.3% in December alone.

The second half of the fiscal year continued an upward trend, as stocks rallied on better employment data and continued signs of strength in the manufacturing sector. Consumer confidence also made progress. Manufacturing was primarily led by a jump in the housing market. Increasing employment numbers coupled with low borrowing costs were the main drivers of the housing market. Stocks did see a slight pullback at the end of the fourth quarter of the fiscal year. In May, the Fed announced it may begin to "taper" its quantitative easing program later in the calendar year. Interest rates immediately spiked and money began to flow modestly away from equities. Internationally, emerging markets lagged due to China's slowing growth. Europe and Japan, however, continued to post gains on the heels of their respective central banks' QE programs.

Politically, the Presidential election dominated the headlines during the first half of the fiscal year. Concern over the growing national debt and national healthcare tempered investors' enthusiasm. Fortunately, the strong labor market and the rising manufacturing numbers were able to increase consumer confidence overall. Internationally, the ongoing European debt crisis and the slowdown in China dampened consumer confidence, but strong returns were still realized, driven by Europe and Japan.

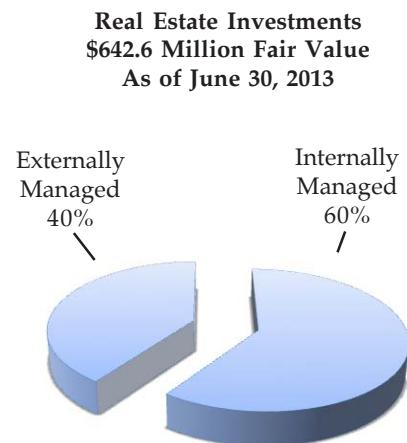
In summary, we experienced a very strong equity market for the fiscal year. Small and mid cap domestics were the drivers, but domestic and international large caps also enjoyed double digit gains on the year. Having been buoyed by monetary stimulus over the past year, markets are wary going forward of any potential reduction or elimination of that stimulus.

### REAL ESTATE

The retirement annuity trust fund's real estate investments had a fair value of \$642.6 million as of June 30, 2013, representing 4.0% of total assets. The retirement annuity trust fund's investments in real estate are intended to provide attractive long-term returns, generate reliable cash flow, and provide diversification, thereby reducing the volatility of the overall investment portfolio.

The retirement annuity trust fund's real estate exposure is currently provided through six portfolios. The retirement annuity trust fund maintains an internally managed portfolio of directly owned properties under long-term lease agreements with high credit quality tenants. The retirement annuity trust fund is also invested in a commingled real estate fund (PRISA Fund), which is managed by Prudential Real Estate Investors. This fund is a core real estate equity fund which invests primarily in existing income-producing properties with strong cash flows and the potential for capital appreciation. The fund is diversified across several property types including office, retail, industrial, apartment, self-storage and hotel.

Additionally, the retirement annuity trust fund is invested in four real estate limited partnerships: Carlyle Realty Partners VI, Blackstone Real Estate Partners VII, Rockwood Capital Real Estate Fund IX, and TA Realty Associates Fund X. Going forward, investment staff will continue to opportunistically add to the annuity trust fund's real estate investments.



REAL ESTATE OVERVIEW

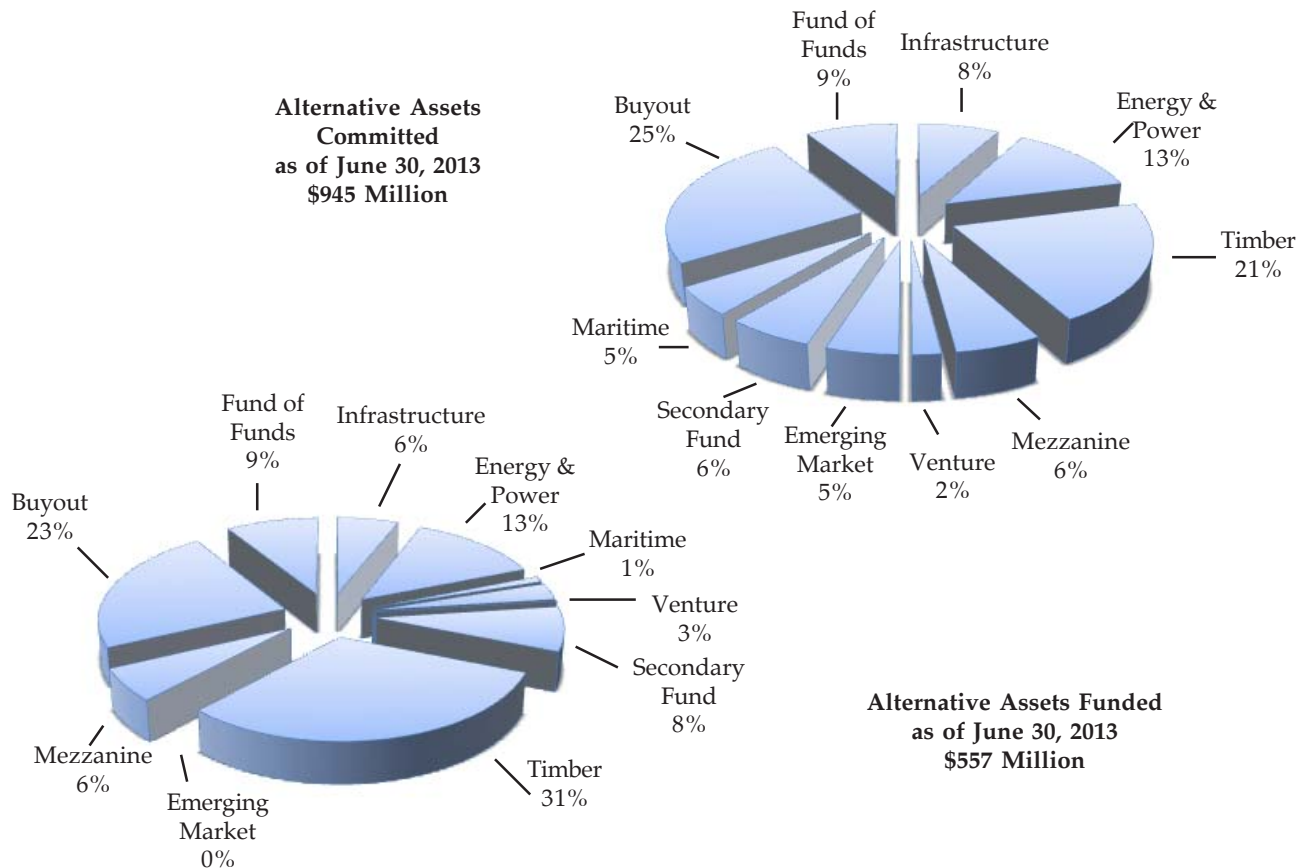
Investor demand for commercial real estate was quite strong during the fiscal year. Demand for core properties was especially robust with top-tier properties located in gateway markets commanding prices that are back to 2007 levels. Property values in secondary markets also got a boost as investors moved up the risk spectrum to capture more yield and financing became more readily available. Investor appetite for real estate investments should remain strong over the next year due to the sector's solid income yields and improving fundamentals.

According to Real Capital Analytics, \$145.3 billion of properties traded in 2013 through June, an improvement of 24% from the same period in 2012. With construction completions at 50-year lows, there has been a lack of new supply in most sectors of the commercial real estate market. This lack of supply in conjunction with a moderately improving economy should provide a favorable environment for higher rents and lower vacancy rates. Property rents are expected to grow by 1% to 4% on average over the next year.

A growing area of opportunity for investors is in the real estate debt markets. An estimated \$374 billion in commercial and multi-family mortgages will mature in 2013 while another \$1.3 trillion in loans are expected to mature from 2014 to 2017. As borrowers look to refinance, this should provide non-traditional lenders of capital an opportunity to provide financing at attractive levels.

ALTERNATIVE ASSETS

As of June 30, 2013, the retirement annuity trust fund had committed \$945 million to alternative investments and had funded \$557 million of those commitments. The percentage of the retirement annuity trust fund's portfolio in alternative assets was 3.3%. The retirement annuity trust fund's current alternative asset portfolio consists of private equity investments and timberland.



### PRIVATE EQUITY

The retirement annuity trust fund has exposure to venture, buyout, infrastructure, energy, mezzanine and several other private equity sectors via participation in limited partnerships as well as investments in funds of funds. The retirement annuity trust fund is in the early stages of its private equity investment program, which it intends to grow with a disciplined plan of commitments over the next several years. The retirement annuity trust fund looks to diversify its private equity portfolio by firm, country, strategy, and vintage year. Vintage year diversification is achieved by building out the portfolio with disciplined levels of commitments over time. A commitment to any given partnership shall not exceed 20% of the partnership's total commitments.

The Board and staff understand that private equity (along with many other forms of alternative assets) are illiquid and have a long-term holding period. When added to a portfolio with publicly traded assets, this asset class can help to diversify and reduce risk for the retirement annuity trust fund's overall portfolio while enhancing returns. Private equity returns for the first several years of a partnership's life are routinely negative due to the J-curve effect. Positive returns are typically realized only several years into a partnership's existence, during the harvesting period.

### PRIVATE EQUITY MARKET OVERVIEW

The private equity markets continue to rebound from the effects of the financial crisis. Investors, especially on the institutional side, continue to increase their allocation to alternative investments, including private equity. However, fundraising continues to remain challenging for all but the top tier funds, with many funds extending their initial fundraising term. A strong equity market and low interest rates has allowed many private equity funds to exit their portfolio companies either through the IPO market or sales to strategic buyers. A strong IPO market remains the linchpin of the rebound in private equity.

The bifurcation in the private equity market continues with the top tier funds raising capital much easier than less desirable funds. This should, over the long term, provide a shakeup in this space as the weaker firms are forced to exit. The past fiscal year has also seen a large amount of buyout funds returning to the marketplace with mixed results. We continue to see more opportunity in the middle market space and in other niche areas such as energy, infrastructure, distressed credit, and emerging markets. Additionally, the stress in the European markets should continue to present investment opportunities in the private equity space over the next fiscal year.

### TIMBERLAND

In addition to private equity, the retirement annuity trust fund has invested in timberland in the alternative asset class. As of June 30, 2013 the retirement annuity trust fund owns approximately 73,000 acres of timberland outright, has a 7.15% interest in a commingled fund that holds approximately 98,000 acres of timberland and is a member of a joint venture that owns an interest in approximately 124,000 acres of timberland located across seven southern states. Timberland is, by nature, a long term investment as our anticipated time horizon in this asset category is generally a minimum of ten to fifteen years. Timberland provides valuable diversification, current income, and a hedge against inflation. Due to the low correlation of returns with other asset classes, timberland investments should lower the overall volatility of the retirement annuity trust fund's portfolio. Timberland should earn real returns comparable to traditional equity investments with volatility between equities and fixed income over the long-term.

The retirement annuity trust fund diversifies its timberland investments by geography, species of trees, and maturity of timber stands. Investment returns from timberland are primarily driven from net cash flow generated from the sale of trees (referred to as stumpage sales) and capital appreciation from



the biological growth of the trees. Both of these return factors depend to some degree upon the direction of forest commodity prices (paper goods and lumber products). There can also be gains from the timely sale of timberland from the conversion of timberland into higher and better uses, such as vacation property sales.

#### TIMBERLAND MARKET OVERVIEW

The improving U.S. housing market, continued demand from China, and the reduced supply of Canadian timber, have begun to have a positive impact on the U.S. timber market. Despite the usual pricing dips associated with late spring and summer, market fundamentals have continued to support a sustained recovery. During the second quarter of 2013, there was a flurry of announcements regarding increases in production capacity and new investments of capital by U.S. lumber and plywood facilities. The forest products industry is seeking to increase its use of existing assets and add capacity in order to meet current and expected product demand, a welcome development for timberland owners and further evidence that markets for saw timber and ply logs are improving. In the U.S. South, prices for all products continued to strengthen. Normal weather patterns persisted throughout the winter, with rain events providing regional upticks in pulpwood stumpage as facilities liquidated stored on-site inventories.

**RETIREMENT ANNUITY TRUST  
PORTFOLIOS  
FAIR VALUES \*  
June 30, 2013**

**Internally Managed**

<b>Cash Equivalents</b>	
Cash Collections Fund (Unallocated)	\$ 386,683,234
<b>Fixed Income</b>	
Intermediate Bond Fund	795,899,998
Broad Market Bond Fund	649,467,257
Long Term Bond Fund	520,333,595
Internal Bond Fund	326,217,515
Life Insurance Trust	88,623,343
Tax Shelter Fund	391,095
<b>Equity</b>	
S & P 500 Stock Index Fund (Large Cap)	2,633,692,407
S & P 400 Stock Index Fund (Mid Cap)	395,801,667
S & P 600 Stock Index Fund (Small Cap)	274,394,764
<b>Real Estate</b>	
Internally Managed Fund	387,422,184
<b>Subtotal</b>	<u>\$ 6,458,927,059</u>

**Externally Managed**

<b>Fixed Income</b>	
Galliard Capital Management	529,404,800
Ft. Washington Broad Market	523,742,773
<b>Domestic Equity</b>	
Todd Asset Management (Large Cap Core)	1,247,098,155
UBS (Large Cap Value)	1,009,186,556
GE Asset Management (Large Cap Growth)	609,224,099
Wellington (Large Cap Core)	588,175,698
Wellington (Mid Cap Core)	293,729,796
Wellington (Small Cap Core)	161,246,606
Todd Asset Management Opportunity Fund	160,371,755
UBS (130/30)	138,651,261
<b>International Equity</b>	
Todd Asset Management International	764,861,378
Baillie Gifford EAFE Alpha	627,629,002
UBS All Country World ex US	495,487,967
Baring All Country World ex US	459,890,115
Blackrock All Country World ex US IMI	350,905,874

*continued ...*

*RETIREMENT ANNUITY TRUST PORTFOLIOS continued ...*  
*JUNE 30, 2013*

<b>Real Estate</b>	
Prudential PRISA Fund	196,179,640
Blackstone Partners VII, LP	27,825,130
Carlyle Realty Partners VI	21,155,651
The Realty Associates Fund X	10,028,567
Rockwood Capital Real Estate Fund IX	1
<b>Alternative Investments</b>	
Molpus Woodlands Group Lake Superior Timberlands LLC	97,835,024
Molpus Seven States LLC	74,912,053
KKR & Co European Fund III	56,543,955
Riverstone/Carlyle E & P Fund IV	42,056,249
Alinda Infrastructure Fund II	31,537,771
Ft. Washington Fund VI	27,641,971
Hancock Bluegrass LLC - Oregon	24,732,952
KKR & Co Fund 2006	18,873,820
NGP Natural Resources X, LP	18,765,153
Landmark Equity Partners Fund XIV	18,606,867
Lexington Capital Partners Fund VII	18,437,263
Chrysalis Venture Fund III	17,184,268
Ft. Washington Fund V	13,615,257
Oaktree Mezzanine Fund III	13,248,259
Hellman & Friedman Fund VII	12,494,953
Stepstone Pioneer Capital Fund III, LP	10,676,201
Oaktree European Principal Fund III	10,157,366
Audax Mezzanine Fund III	9,871,455
Riverstone E & P Fund V	8,201,917
CapitalSouth Partners Fund III	4,533,801
J. P. Morgan Maritime Fund	3,243,342
Audax Private Equity Fund IV, LP	3,214,644
APAX VIII, LP	2,738,899
Actis Global Fund IV	1,607,674
Alinda Core I	8,007
<b>Additional Categories</b>	
Fort Washington High Yield Bond Fund	305,843,652
Shenkman Capital Management	232,452,630
Marathon KTRS/Credit Fund LP	174,213,019
Avenue Special Situations Fund VI	109,931,579
Rogge Global International Fixed Income	91,778,981
Highbridge Principal Strategies III	11,312,685
Oaktree Opportunities IX, LP	4,984,001
Marathon Legacy Securities PPIP	4,826,734
AG GECC PPIF, LP	33,194
<b>Subtotal</b>	<b>\$ 9,690,910,420</b>
<b>Total Assets</b>	<b>\$ 16,149,837,479</b>

\* Detailed information concerning the market values of all KTRS investments is available upon request.

## INVESTMENT SECTION

### Investment Summary Fair Value – Retirement Annuity Trust\* June 30, 2013

Type of Investment	Fair Value 07/01/12	Acquisitions	Appreciation (Depreciation)	Sales Redemptions, Maturities & Paydowns	Fair Value 06/30/13
Cash Equivalents	\$ 624,793,000	\$ 3,665,519,800	\$ -	\$ 3,489,334,500	\$ 800,978,300
Fixed Income	3,295,533,000	3,410,462,600	(111,041,000)	3,414,968,300	3,179,986,300
Equities	9,259,302,400	2,674,158,900	1,677,527,300	3,508,435,800	10,102,552,800
Real Estate	586,800,800	49,233,000	13,870,400	7,292,900	642,611,300
Alternative	451,266,300	110,612,900	17,538,500	38,678,600	540,739,100
Additional Categories	586,106,700	594,661,200	1,063,800	298,862,000	882,969,700
<b>TOTAL</b>	<b>\$ 14,803,802,200</b>	<b>\$ 10,504,648,400</b>	<b>\$ 1,598,959,000</b>	<b>\$ 10,757,572,100</b>	<b>\$ 16,149,837,500</b>

\* Includes Life Insurance Trust values of \$88,623,343, Tax Shelter Annuity value of \$391,095 and 401(h) value of \$2,193,497.

### Contracted Investment Management Expenses Fiscal Year 2012-13 (in thousands of dollars)

<u>Investment Counselor Fees</u>	<u>Assets Under Management</u>	<u>Expense</u>	<u>Basis Points <sup>(1)</sup></u>
Equity Manager(s)	\$ 6,906,458	\$ 12,109	
Fixed Income Manager(s)	1,053,148	448	
Real Estate	255,189	3,957	
Additional Categories	935,376	4,122	
Alternative Investments (2)	540,739	10,959	
<b>Total</b>	<b>\$ 9,690,910</b>	<b>\$ 31,595</b>	<b>32.6</b>
 <b>Other Investment Services</b>			
Custodian Fees (3)	\$ 16,150,347	\$ 333	0.2
Consultant Fees		359	0.2
Legal & Research		156	0.1
Subscriptions/Services		700	0.4
<b>Total</b>	<b>\$ 16,150,347</b>	<b>\$ 1,548</b>	<b>1.0</b>
<b>Grand Total</b>		<b>\$ 33,143</b>	<b>20.5</b>

(1) - One basis point is one hundredth of one percent or the equivalent of .0001.

(2) - Private equity fees are either withheld from the Fund operations or paid by direct disbursement, depending on contract terms.

(3) - Includes J. Losey Scholarship Fund.

**Ten Largest Stock Holdings Ranked <sup>(1) (2)</sup>  
by Fair Value  
June 30, 2013**

<u>Rank</u>	<u>Description</u>	<u>Fair Value</u>	<u>Percentage of Equities</u>
1	Apple Inc	140,776,477	1.752
2	JP Morgan Chase	115,322,289	1.435
3	Exxon Mobil Corp	113,519,444	1.413
4	Philip Morris Inc	100,467,939	1.250
5	Wells Fargo & Co	98,465,556	1.226
6	Google Inc CL A	95,260,436	1.186
7	Citigroup Inc	90,207,681	1.123
8	Microsoft Corp	84,672,939	1.054
9	Chevron Corp	77,297,676	0.962
10	Qualcomm Inc	72,744,506	0.905

**Top Ten Fixed Income Holdings <sup>(2)</sup>  
by Fair Value  
June 30, 2013**

<u>Rank</u>	<u>Description</u>	<u>Maturity</u>	<u>Coupon</u>	<u>Par Value</u>	<u>Fair Value</u>	<u>Percent of Fixed Income</u>
1	U S Treasury	4/30/2017	0.880	55,000,000	54,725,000	1.500
2	U S Treasury	5/31/2015	0.250	50,000,000	49,912,000	1.364
3	U S Treasury	5/15/2016	0.250	49,950,000	49,419,531	1.362
4	U S Treasury	4/30/2018	0.630	50,290,000	48,600,759	1.372
5	U S Treasury	5/15/2023	1.750	49,415,000	46,280,112	1.348
6	U S Treasury Bonds	8/15/2023	6.250	31,900,000	42,805,972	0.870
7	U S Treasury	1/15/2023	0.130	32,475,000	31,724,558	0.886
8	U S Treasury Bonds	8/15/2029	6.130	22,000,000	30,603,980	0.600
9	FNMA	7/01/2043	3.000	26,650,000	26,037,850	0.727
10	U S Treasury	3/31/2017	1.000	23,180,000	23,201,789	0.632

(1) Includes only actively managed separate accounts.

(2) Detailed information concerning these values along with book values and cost values of all KTRS investments is available upon request.

Transaction Commissions Fiscal Year 2012-13

COMPANIES	SHARES TRADED	COMMISSIONS	COMMISSION PER SHARE	% OF TOTAL
Academy Securities, Inc.	18,410	\$ 720.90	\$ 0.04	0.03 %
Allen & Co	1,400	1,411.20	1.01	0.05
Avondale Partners, LLC	25,655	939.51	0.04	0.03
B. Riley & Co. LLC	1,510	60.40	0.04	0.00
Barclays	1,475,278	50,318.74	0.03	1.79
Barclays Capital, London	1,200	12.00	0.01	0.00
Bay Crest Partners, LLC	4,010	160.40	0.04	0.01
BB & T Capital Markets	1,500	1,140.00	0.76	0.04
Blair, William & Co	44,383	1,696.48	0.04	0.06
BMO Capital Markets	17,100	684.00	0.04	0.02
BNP Paribas Securities Bond	36,410	1,456.40	0.04	0.05
BNY ConvergeX Group	6,053,748	110,036.70	0.02	3.92
Brean Murray, Carret & Co., LLC	10,380	415.20	0.04	0.01
BTIG	82,100	3,129.60	0.04	0.11
Burke & Quick Partners LLC	3,620	144.80	0.04	0.01
Cabrera Capital	20,320	802.45	0.04	0.03
Canaccord Genuity, Inc.	35,105	1,388.41	0.04	0.05
Cantor Fitzgerald & Co	35,490	1,547.55	0.04	0.06
CIBC Worldmarket	20,100	804.00	0.04	0.03
Citigroup Global	363,070	22,564.78	0.06	0.80
Cowen & Co	274,085	12,707.38	0.05	0.45
Credit Agricole Securities	27,470	997.94	0.04	0.04
Credit Research & Trading LLC	132,610	3,692.50	0.03	0.13
Credit Suisse Sec. LLC	3,161,651	118,937.19	0.04	4.23
Crowell Weedon & Co	98,185	3,927.40	0.04	0.14
CSI US Institutional (Calyon)	244,030	9,712.30	0.04	0.35
Cuttone & Co Inc	12,300	485.00	0.04	0.02
D A Davidson & Co	23,270	911.70	0.04	0.03
Dahlman Rose & Co LLC	14,930	597.20	0.04	0.02
Deutsche Bank	1,217,738	52,018.98	0.04	1.85
Dowling & Partners	3,860	154.40	0.04	0.01
Drexel Hamilton LLC	5,690	199.15	0.04	0.01
Evercore Group LLC	4,938	194.52	0.04	0.01
Fidelity Capital Markets	4,600	184.00	0.04	0.01
Fig Partners, LLC	28,840	1,153.60	0.04	0.04
First Kentucky Securities Corp	1,334,140	40,024.20	0.03	1.42
Freidman Billings	130,065	6,542.75	0.05	0.23
Goldman Sachs	3,030,494	116,895.54	0.04	4.16
Green Street Advisors	30,650	1,226.00	0.04	0.04
Imperial Capital	4,942	197.68	0.04	0.01
Instinet	26,420	264.20	0.01	0.01
Investment Tech Grp Transition	23,741,366	230,536.44	0.01	8.21
Investment Technology Grp	23,942,525	345,076.51	0.01	12.28
ISI Group	3,333,962	96,959.83	0.03	3.45
J.J.B. Hilliard, W.L. Lyons	3,094,796	92,843.88	0.03	3.30
Janney Montgomery Scott Inc	173,170	5,212.30	0.03	0.19
Jefferies & Co.	576,622	12,096.68	0.02	0.43
JMP Securities	7,400	296.00	0.04	0.01
Jones & Associates	87,910	3,545.40	0.04	0.13
JP Morgan & Chase	643,306	42,235.41	0.07	1.50
Keefe Bruyette & Woods	46,880	1,875.20	0.04	0.07
Keybank Capital	53,390	2,084.00	0.04	0.07
King, CL, & Associates, Inc.	49,970	1,998.80	0.04	0.07
Knight Equity Markets	41,250	1,057.40	0.03	0.04
Lazard Freres & Co.	3,847,179	115,722.70	0.03	4.12
Leerink Swann & Co.	82,830	3,334.45	0.04	0.12
Lexington Investment Co.	611,500	18,345.00	0.03	0.65
Liquidnet Inc	18,385,361	170,743.57	0.01	6.08
Liquidnet Inc - Transition	5,753,200	43,149.00	0.01	1.54

*Transaction Commissions continued . . .*

COMPANIES	SHARES TRADED	COMMISSIONS	COMMISSION PER SHARE	% OF TOTAL
Longbow Securities LLC	62,770	2,510.80	0.04	0.09
Loop Capital Markets, LLC	9,270	168.60	0.02	0.01
MacQuarie Securities Inc Total	36,890	1,475.60	0.04	0.05
Merrill Lynch	5,481,270	121,746.59	0.02	4.33
Merrill Lynch, Pierce, Fenner	81,310	3,072.95	0.04	0.11
Miller Tabak & Co. LLC	22,530	901.20	0.04	0.03
Mizuho Securities, USA	79,390	2,986.35	0.04	0.11
MKM Partners	26,860	1,074.40	0.04	0.04
Morgan Keegan	2,566,520	76,995.60	0.03	2.74
Morgan Stanley	709,638	26,190.99	0.04	0.93
Morgan Stanley Smith Barney-Huntington	2,306,600	69,198.00	0.03	2.46
Morgan Stanley Smith Barney-Louisville	2,436,910	73,107.30	0.03	2.60
Morgan Stanley Smith Barney-Northern KY	2,907,190	87,215.70	0.03	3.10
Needham	19,680	787.20	0.04	0.03
Nomura Securities Intrntl Inc	4,000	160.00	0.04	0.01
OTA Limited Partners	11,890	475.60	0.04	0.02
Pacific Crest Securities	44,185	1,767.40	0.04	0.06
Pershing LLC	25,190	1,007.60	0.04	0.04
Piper Jaffray	82,198	3,249.08	0.04	0.12
Pulse Trading	8,420	84.20	0.01	0.00
R W Baird	359,855	12,428.37	0.03	0.44
Raymond James & Assoc	5,392,070	179,638.36	0.03	6.39
RBC Capital Markets	394,016	15,767.59	0.04	0.56
Rosenblatt Securities LLC	13,590	168.90	0.01	0.01
Ross Sinclair & Assoc	720,200	21,606.00	0.03	0.77
Sandler O'Neill	31,080	1,087.80	0.04	0.04
Sanford C Bernstein	581,468	7,968.53	0.01	0.28
Scotia Capital, USA	9,200	368.00	0.04	0.01
SG AMERICAS SECURITIES	30,000	1,350.00	0.05	0.05
Sidoti & Company LLC	25,400	991.60	0.04	0.04
Simmons & Co	18,970	758.80	0.04	0.03
State Street Global	50,150	1,515.00	0.03	0.05
Stephens Inc.	21,545	855.80	0.04	0.03
Sterne, Agee & Leach	118,890	4,370.85	0.04	0.16
Stifel, Nicolaus & Co	2,072,190	67,386.59	0.03	2.40
Stifel, Nicolaus & Co-Louisville	690,440	20,713.20	0.03	0.74
Suntrust Robinson	41,130	4,039.30	0.10	0.14
Susquehanna Brokerage	118,730	4,732.70	0.04	0.17
Telsey Advisory Group LLC	106,133	4,056.36	0.04	0.14
The Benchmark Company LLC	10,580	450.00	0.04	0.02
UBS/Paine Webber Securities	763,396	15,683.36	0.02	0.56
UBS/Paine Webber-Louisville	2,539,990	76,199.70	0.03	2.71
Wedbush Morgan Securities	9,840	393.60	0.04	0.01
Weeden & Co	3,949,505	118,655.18	0.03	4.22
Wells Fargo Securities, LLC	181,012	16,011.22	0.09	0.57
Williams Capital Group	7,070	282.80	0.04	0.01
Zacks & Company	600	24.00	0.04	0.00
<b>TOTAL</b>	<b>137,714,075</b>	<b>\$ 2,809,248.49</b>	<b>\$ 0.02</b>	<b>100%</b>

*The acquisition of initial public offerings (IPOs) represented a portion of small capitalization stock purchases. IPOs usually have a high commission rate; however, the security issuers and not the investors pay the commissions. In 2012-13, the retirement annuity trust fund bought small capitalization IPOs that generated \$239,941 in commissions. Although these commissions were not paid by the retirement system, they resulted from the retirement annuity trust fund's investment activities and are included in the total commissions of \$2,809,248. Typical stock transactions occur at lower commission rates than IPO transactions, frequently \$.03 per share or less. Investment companies usually provide investment research for brokerage clients. On occasion, investment companies direct third party research to active clients. The primary research providers were: Bloomberg, Interactive Data, Segal Rogers Casey, ISS, QED Financial Systems, and Thomson Financial.*

### PROXY VOTING AND CORPORATE BEHAVIOR

The System regularly votes proxy statements associated with its equity ownership. The positions assumed by the System are intended to represent the financial interests of the membership. The Board of Trustees has adopted a policy that directs the staff not to subjugate the financial concerns of the System to social or political protests. At the same time, the System expects the companies in which it acquires stock to be solid corporate citizens that abide by federal, state, and local laws. The Board has adopted the following position on corporate behavior:

The Board's stated fiduciary duty is to obtain the highest return for the Fund commensurate with acceptable levels of risk. This implies that non-financial considerations cannot take precedence to pure risk/return considerations in the evaluation of investment decisions. However, action taken by the Fund as a shareowner can be instrumental in encouraging action as a responsible corporate citizen by the companies in which the Fund has invested.

The Board expects the managements of the companies whose equity securities are held in the Fund's portfolio to conduct themselves with propriety and with a view toward social considerations. A level of performance above minimum adherence to the law is generally expected. If any improper practices come into being, the Board expects corporate management to move decisively to eliminate them and effect adequate controls to prevent recurrence.

On the other hand, the Board does not intend to supplant the duties which are the responsibility of federal or state regulatory agencies, such as the Equal Employment Opportunity Commission, the Environmental Protection Agency, the Occupational Safety and Health Agency, the Nuclear Regulatory Commission, the Securities and Exchange Commission, and others which are covered by the laws of the United States Government or the State of Kentucky.

Should satisfaction of the Board's criteria by any company not be adequate, the Board will consider what action to take, which may include, but not be limited to, correspondence with the company, meetings with company officials, sponsoring of shareholder resolutions or, as a last resort, liquidation of the System's holdings in the company, if the sale is consistent with sound investment policy.

### SECURITY LENDING

The System operates a security lending program in which it temporarily lends securities to qualified agents in exchange for a net fee and high quality collateral. U.S. Government and agency securities and select stocks and bonds are the types of securities loaned. The System's custodian, The Bank of New York Mellon, acts as lending agent in exchanging securities for collateral. The collateral, at the time of the loan, has a value of not less than 102% of the market value of the lent securities plus any accrued, unpaid distributions. The collateral consists of cash, marketable U.S. Government securities, and selected marketable U.S. Government agency securities approved by the System.

Cash collateral is invested in short term obligations fully guaranteed by the United States Government or select Government agencies and Government Repurchase Agreements with qualified agents. The System cannot pledge or sell collateral securities unless the borrower defaults. The lending agent also indemnifies the System from any financial loss associated with a borrower's default and collateral inadequacy. The weighted average maturity of cash collateral investments is typically two days. The System has no credit risk exposure to borrowers, since the amounts the System owes borrowers exceeds the amounts the borrowers owe the System.

Security lending programs can entail considerable interest rate risk and credit risk. The System has structured its program to minimize these two main categories of risk. The interest rate risk is managed, as mentioned above, by limiting the term of cash collateral investments to several days. The credit risk is controlled by investing cash collateral in securities with qualities similar to the creditworthiness of lent securities.



KENTUCKY INVESTMENTS

The retirement system is always cognizant of its significant role in the Commonwealth's economy. Over \$1.5 billion in benefits are distributed to members and annuitants living in Kentucky annually. Approximately \$318 million of the retirement annuity trust fund's investments directly impact the Commonwealth. These investments include: commercial real estate; bonds issued by public agencies of the Commonwealth and those of local municipalities; pools of single-family mortgages in Kentucky; financing for multi-family housing, and; investments in companies which have an impact on the Commonwealth's economy but receive earnings from global operations. Fiduciary duty requires that investments be made solely for the benefit of the retirement system's members and annuitants. Investments which benefit the Commonwealth's economy are made only when fully consistent with this fiduciary duty.

PROFESSIONAL SERVICE PROVIDERS

**Investment Consultant**

Hewitt EnnisKnupp, Inc.

**Investment Custodian**

The Bank of New York Mellon

**Fixed Income Managers**

Galliard Capital Management  
Ft. Washington Investment Advisors

**Domestic Equity Managers**

Todd Asset Management LLC  
UBS Global Asset Management  
Wellington Management Company  
GE Asset Management

**International Equity Managers**

Todd Asset Management LLC  
UBS Global Asset Management  
Baring Asset Management, Inc.  
Baillie Gifford  
Blackrock Institutional Trust Company

**Real Estate Managers**

Prudential Real Estate Investors  
Carlyle Realty Partners  
Blackstone Real Estate Partners  
Rockwood Capital Real Estate  
TA Associates Realty

**Alternative Investment Managers**

Molpus Woodlands Group  
Hancock Natural Resources Group  
Kohlberg Kravis Roberts & Co.  
Chrysalis Ventures  
Ft. Washington Private Equity Investors  
Alinda Capital Partners, LLC  
Riverstone Holdings, LLC  
CapitalSouth Partners  
Landmark Partners  
Lexington Partners  
Oaktree Capital Management  
Stepstone Pioneer Capital  
Audax Group  
J.P. Morgan Asset Management  
Hellman & Friedman Capital Partners  
Natural Gas Partners  
Apax Partners  
Actis LLP

**Additional Categories Investment Managers**

AG GECC PPIF GP, LLC  
Avenue Capital Group  
Marathon Asset Management  
Ft. Washington Investment Advisors  
Oaktree Capital Management  
Shenkman Capital Management, Inc  
Rogge Global Partners  
Highbridge Principal Strategies, LLC

**Attorney**

Ice Miller LLP

## HEALTH INSURANCE TRUST FUND

### INVESTMENT POLICY SUMMARY

The statute that created the health insurance trust fund on July 1, 2010, KRS 161.677, obliges the Board to "manage the assets of the fund in the same general manner in which it administers the retirement funds, except that the asset allocation may differ and separate accounting and financial reporting shall be maintained for the trust fund." KRS 161.430, which governs the investment of funds for the retirement funds, requires that members' assets be managed in a manner consistent with fiduciary standards set forth in the "prudent person rule." Subject to this statute, administrative regulation 102 KAR 1:178 establishes investment policies for the health insurance trust fund. This regulation requires the Board and Investment Committee to prudently diversify assets and to consider the fund's "liquidity and its capability of meeting both short and long-term obligations" in setting asset allocation policy.

Due to an imbalance of required distributions over contributions early in the fund's existence, liquidity needs have dominated investment policy. This will evolve as contribution rate increases provided in statute improve cash flow in future years. As near-term liquidity needs recede in importance, the focus will increasingly be on establishing an investment policy which achieves the required rate of return and matches the health insurance liability.

### INVESTMENT OBJECTIVES

The definitive objective of the health insurance trust fund is to provide for beneficiaries' health insurance benefit obligations, both short and long-term. In support of this objective, investment policy will be designed, on an ongoing basis, to: (1) meet all liquidity needs, (2) achieve the actuarially assumed 8.0% rate of return over the long-term, and (3) do so within appropriate risk levels.

### RISK CONTROLS

Any investment program faces various risks; as with the retirement funds, the primary risk is that the assets will not support liabilities over the long-term. Risk control measures for the health insurance trust fund mirror those of the retirement annuity trust fund, but are customized to reflect the fund's unique liability. Primary risk control measures include the following steps:

- Actuarial valuations are performed each year to evaluate the funding objectives of the health insurance trust fund. Every ten years an external audit of the actuary is conducted to ensure that the assumptions made and calculation methods used are resulting in properly computed liabilities of the fund.
- Asset/liability studies are conducted approximately every five years. These studies ensure that the portfolio design is structured to meet the liabilities of the fund.
- In accordance with administrative regulation 102 KAR 1:178, which governs investment policies for the fund, the KTRS Investment Committee adopts and regularly reviews an asset allocation policy designed to meet the fund's needs.

ASSET ALLOCATION

As of June 30, 2013, the health insurance trust fund had approximately \$447.2 million in total assets. This included \$39.5 million in cash and \$76.9 million in short-term high quality bonds for liquidity purposes. This trust fund also had \$59.2 million in high yield bonds, \$243.0 million in a global stock index fund, \$1.3 million in private equity investments, \$26.2 million in bank loans, and \$1.1 million in an alternative credit fund.

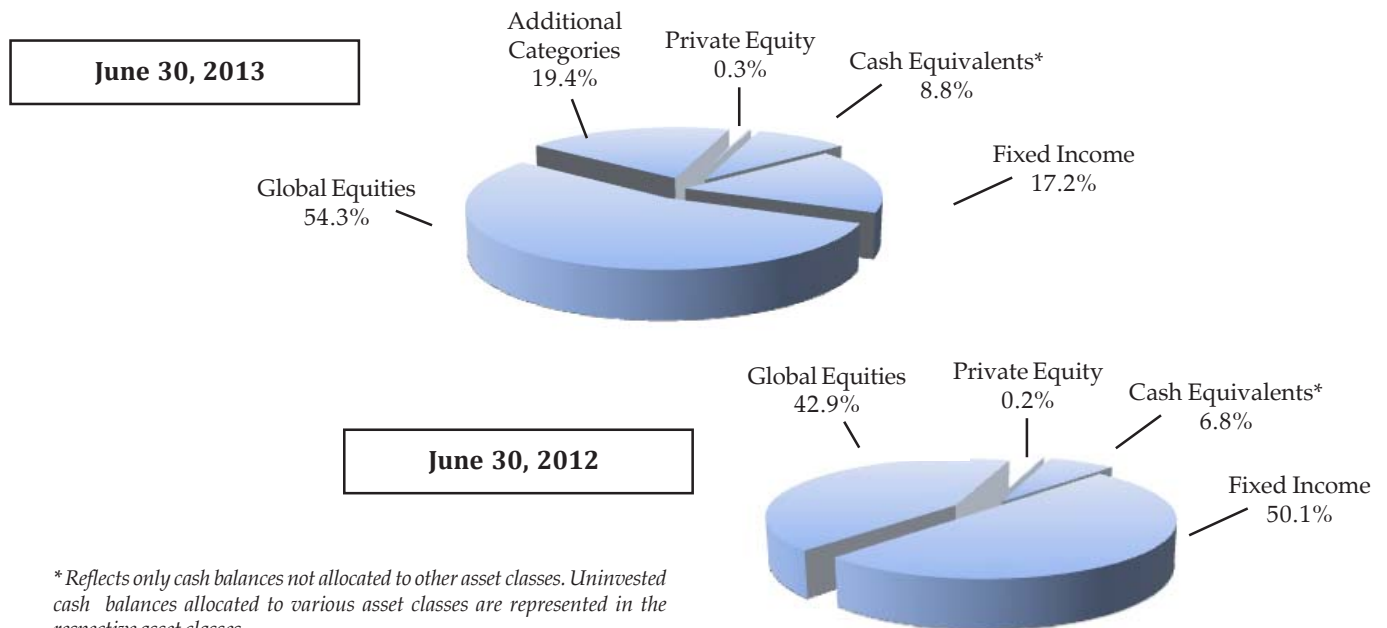
Asset allocation will be adjusted annually by the Investment Committee to reflect changing liquidity needs and actuarial funding status. Due to upcoming contribution rate increases enacted in statute, liquidity needs are expected to decline in coming years while funding status improves. The information below shows the health insurance trust fund's asset allocation by fair value as of June 30, 2013 and June 30, 2012.

Health Insurance Trust

	<u>June 30, 2013</u>	<u>%</u>	<u>June 30, 2012</u>	<u>%</u>
Cash Equivalents *	\$ 39,455,381	8.8	\$ 22,265,278	6.8
Fixed Income	76,930,328	17.2	164,189,966	50.1
Global Equities	243,022,751	54.3	140,740,861	42.9
Additional Categories	86,551,982	19.4	-0-	0.0
Private Equity	1,255,715	0.3	748,103	0.2
<b>Totals</b>	<b>\$ 447,216,157</b>	<b>100.0</b>	<b>\$ 327,944,208</b>	<b>100.0</b>

\* Reflects only cash balances not allocated to other asset classes. Uninvested cash balances allocated to various asset classes are represented in the respective asset classes.

Distribution of Investments Health Insurance Trust Fair Values



HEALTH INSURANCE TRUST

PORTFOLIO RETURNS

For the fiscal year, the health insurance trust fund's portfolio returned 10.1%. The fund's global equities returned 17.6% versus 17.1% for the MSCI All country World IMI Index. A short-term bond fund held for liquidity purposes returned 0.1%. A high yield bond fund returned 8.8% versus 9.6% for its benchmark.

Due to a necessary focus on liquidity needs early in the fund's existence and rapidly evolving asset allocation as its funding mechanism is implemented, no policy benchmark has yet been established. Returns were generated by the Segal Rogers Casey performance reporting system using a time-weighted rate of return calculation based upon the modified Dietz methodology.

	<u>1 Yr.</u> <sup>(1)</sup>	<u>3 Yr.</u> <sup>(1)</sup>	<u>5 Yr.</u> <sup>(1)</sup>	<u>10 Yr.</u> <sup>(1)</sup>	<u>20 Yr.</u> <sup>(1)</sup>
<b>Total Fund</b>					
KTRS Health Insurance Trust	10.1	-	-	-	-
<b>Equities</b>					
Global Equities	17.6	-	-	-	-
MSCI AC World IMI	17.1	-	-	-	-
<b>Fixed Income</b>					
Internal Bond Fund	0.1	-	-	-	-
90 Day Treasury Bill	0.1	-	-	-	-
<b>Alternative Investments</b>					
Private Equity <sup>(2)</sup>	40.1	-	-	-	-
<b>Additional Categories</b>					
High Yield Bond Fund	8.8	-	-	-	-
B of A Merrill Lynch	9.6	-	-	-	-
High Yield Master II					
Shenkman Capital Management	-	-	-	-	-
Highbridge Principal Strategies III	-	-	-	-	-
S & P LSTA Leverage Loan Index	-	-	-	-	-
<b>Cash</b>					
Cash (Unallocated)	0.1	-	-	-	-
90 Day Treasury Bill	0.1	-	-	-	-

(1) Annualized.

(2) For a period of five years private equity will be benchmarked against their own returns. The primary reason for this is that these investments have a minimum investment horizon of ten years and there is no market benchmark that would be expected to track these types of assets in their early years. Beginning five years after the commitment date, investments in this class shall be benchmarked versus the S & P 500 plus 3%, which is the System's long-term expected return for this asset class.

**HEALTH INSURANCE TRUST  
PORTFOLIOS  
FAIR VALUES \*  
June 30, 2013**

**Internally Managed**

<b>Cash Equivalents</b>	
Cash Collections Fund	\$ 39,455,381
<b>Fixed Income</b>	
Internal Bond Fund	<u>76,930,328</u>
<b>Subtotal</b>	<u>116,385,709</u>

**Externally Managed**

<b>Global Equities</b>	
BlackRock Fund B	243,022,751
<b>Alternative Investments</b>	
Ft. Washington Fund VII	1,096,647
Actis Global Fund IV	157,467
Alinda Core Fund I	1,601
<b>Additional Categories</b>	
Ft. Washington High Yield Bond Fund	59,184,982
Shenkman Capital Management	26,235,731
Highbridge Principal Strategies III	<u>1,131,269</u>
<b>Subtotal</b>	<u>330,830,448</u>
Total Assets	<u>\$ 447,216,157</u>

\* Detailed information concerning these fair values of all KTRS investments is available upon request.

<b>Investment Summary</b>					
<b>Fair Value – Medical Insurance Trust</b>					
<b>June 30, 2013</b>					
<b>Type of Investment</b>	<b>Fair Value 07/1/2012</b>	<b>Acquisitions</b>	<b>Appreciation (Depreciation)</b>	<b>Sales Redemptions, Maturities &amp; Paydowns</b>	<b>Fair Value 06/30/13</b>
Cash Equivalents	\$ 46,051,900	\$ 566,757,800	\$ -	\$ 558,087,300	\$ 54,722,400
Fixed Income	87,375,500	71,955,100	(533,300)	94,069,100	64,728,200
Real Estate	-	-	-	-	-
Equities	140,740,900	77,004,700	25,277,200	-	243,022,800
Alternative	748,100	1,126,500	69,600	688,500	1,255,700
Additional Categories	<u>53,027,900</u>	<u>61,167,900</u>	<u>617,900</u>	<u>31,326,600</u>	<u>83,487,100</u>
<b>TOTAL</b>	<u>\$ 327,944,200</u>	<u>\$ 778,012,000</u>	<u>\$ 25,431,400</u>	<u>\$ 684,171,400</u>	<u>\$ 447,216,200</u>

**Health Insurance Trust Fund  
Contracted Investment  
Management Expenses  
Fiscal Year 2012-13  
(in thousands of dollars)**

<u>Investment Counselor Fees</u>	<u>Assets Under Management</u>	<u>Expense</u>	<u>Basis Points</u> <sup>(1)</sup>
Equity Manager(s)	\$ 243,023	\$ 112	
Fixed Income Manager(s)	0	0	
Additional Categories	86,552	152	
Alternative Investments <sup>(2)</sup>	<u>1,256</u>	<u>284</u>	
Total	\$ 330,831	\$ 548	16.6
<b><u>Other Investment Services</u></b>			
Custodian Fees	447,216	\$ 7	0.2
Consultant Fees		0	0.0
Legal & Research		0	0.0
Subscriptions/Services		<u>1</u>	0.0
Total	\$ 447,216	<u>\$ 8</u>	0.2
<b>Grand Total</b>		<u><u>\$ 556</u></u>	<b>12.4</b>

(1) – One basis point is one hundredth of one percent or the equivalent of .0001.

(2) – Private equity fees are either withheld from the Fund operations or paid by direct disbursement, depending on contract terms.”

**HEALTH INSURANCE TRUST PROFESSIONAL SERVICE PROVIDERS**

**Investment Consultant**  
Hewitt EnnisKnupp, Inc.

**Global Equity Manager**  
BlackRock Institutional Trust Company

**Investment Custodian**  
The Bank of New York Mellon

**Alternative Investment Managers**  
Ft. Washington Private Equity Investors  
Actis LLP  
Alinda Capital Partners, LLC

**Additional Categories Managers**  
Ft. Washington Investment Advisors  
Shenkman Capital Management, Inc  
Highbridge Principal Strategies, LLC

**Attorney**  
Ice Miller LLP

---

# Actuarial Section

---

Report of the Actuary  
on the Annual Valuation

for Fiscal Year ending June 30, 2012



## Cavanaugh Macdonald

CONSULTING, LLC

*The experience and dedication you deserve*

December 11, 2012

Board of Trustees  
Teachers' Retirement System of the  
State of Kentucky  
479 Versailles Road  
Frankfort, KY 40601-3800

Members of the Board:

Section 161.400 of the law governing the operation of the Teachers' Retirement System of the State of Kentucky provides that the actuary shall make an actuarial valuation of the System. We have submitted the results of the annual actuarial valuation prepared as of June 30, 2012. While not verifying the data at source, the actuary performed tests for consistency and reasonability. The combined member and state contributions for the fiscal year ending June 30, 2015 required to support the benefits of the System are 31.89% of payroll for university members hired before July 1, 2008, 32.89% of payroll for university members hired on and after July 1, 2008, 34.85% of payroll for non-university members hired before July 1, 2008, and 35.85% of payroll for non-university members hired on and after July 1, 2008.

These rates represent an increase since the previous valuation in the Pension required employer contribution rate of 1.90% of payroll for the 2014/2015 fiscal year. In addition, there has been a net decrease in the expected state special appropriation from 3.50% to 3.00%, or 0.50% of payroll and no change in the amount required for life insurance benefits. Therefore, the net impact on the required increase in the total employer contribution rate is 2.40% of payroll.

For the 2014/2015 fiscal year, in addition to the State statutory contribution rates and the state special appropriation, there is a required increase in the employer contribution rate of 10.42%; 2.40% from this valuation and 8.02% from the previous valuation. In order to maintain the actuarial soundness of the retirement system, the entire required contributions will need to be made without any being used as a Stabilization Contribution for the Medical Insurance Fund.

The financing objective of the System is that contribution rates will remain relatively level over time as a percentage of payroll. The promised benefits of the System are included in the actuarially calculated contribution rates which are developed using the entry age normal cost method.

Five-year market related value of plan assets is used for actuarial valuation purposes. Gains and losses are reflected in the unfunded accrued liability that is being amortized by regular annual contributions as a level percentage of payroll within a 30-year period, on the assumption that payroll will increase by 4.0% annually. The assumptions recommended by the actuary and adopted by the Board are reasonably related to the experience under the System and to reasonable expectations of anticipated experience under the System and meet the parameters for the disclosures under GASB 25 and 27.

3550 Busbee Pkwy, Suite 250, Kennesaw, GA 30144

Phone (678) 388-1700 • Fax (678) 388-1730

[www.CavMacConsulting.com](http://www.CavMacConsulting.com)

Offices in Englewood, CO • Kennesaw, GA • Bellevue, NE • Hilton Head Island, SC





Board of Trustees  
December 11, 2012  
Page 2

We have prepared the trend information shown in the Schedule of Funding Progress in the Financial Section of the Annual Report and Schedule A, Schedule B, Schedule C, Solvency Test and Analysis of Financial Experience shown in the Actuarial Section of the Annual Report.

The valuation reflects that a portion of the annual required contributions to the fund have been allocated to the Medical Insurance Fund and are being repaid over time. A pension obligation bond was issued August 26, 2010 and was used to repay the balances of a substantial portion of the loans previously made to the Medical Insurance Fund.

This is to certify that the independent consulting actuary is a member of the American Academy of Actuaries and has experience in performing valuations for public retirement systems, that the valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board, and that the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the retirement system and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the System.

Future actuarial results may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

In our opinion, the System is not being funded on an actuarially sound basis since the actuarially required contributions are not being made by the employer. If contributions by the employer to the System continue to be less than those required, the assets are expected to become insufficient to pay promised benefits. Assuming that contributions to the System are made by the employer from year to year in the future at rates recommended on the basis of the successive actuarial valuations, the continued sufficiency of the assets to provide the benefits called for under the System may be safely anticipated.

Respectfully submitted,

Edward A. Macdonald, ASA, FCA, MAAA  
President

Edward J. Koebel, EA, FCA, MAAA  
Principal and Consulting Actuary



**Report of Actuary on the Valuation  
Prepared as of June 30, 2012  
Section I - Summary of Principal Results**

1. For convenience of reference, the principal results of the valuation and a comparison with the results of the previous valuation are summarized below (all dollar amounts are \$1,000's):

<b>Valuation Date</b>	<b>June 30, 2012</b>	<b>June 30, 2011</b>
Number of active members	75,951	76,349
Annual salaries	\$ 3,479,567	\$ 3,451,756
Number of annuitants and beneficiaries	46,094	44,419
Annual allowances	\$ 1,525,184	\$ 1,433,386
Assets		
Market value	\$ 14,797,121	\$ 15,130,606
Actuarial value	\$ 14,691,371	\$ 14,908,138
Unfunded actuarial accrued liability	\$ 12,282,483	\$ 11,060,554
Funded Ratio	54.5%	57.4%
Amortization period (years)	30	30

**Contribution Rates for University Members**

<b>Valuation Date</b> For Fiscal Year Ending	<b>June 30, 2012</b>		<b>June 30, 2011</b>	
	June 30, 2015		June 30, 2014	
	Members hired before 7/1/2008	Members hired on or after 7/1/2008	Members hired before 7/1/2008	Members hired on or after 7/1/2008
<b>Pension Plan:</b>				
Normal	11.790 %	11.790 %	11.770 %	11.770 %
Accrued liability	<u>20.100</u>	<u>21.100</u>	<u>18.220</u>	<u>19.220</u>
Total	31.890 %	32.890 %	29.990 %	30.990 %
Member	7.625 %	7.625 %	7.625 %	7.625 %
State (ARC)	<u>24.265</u>	<u>25.265</u>	<u>22.365</u>	<u>23.365</u>
Total	31.890 %	32.890 %	29.990 %	30.990 %
<b>Life Insurance Fund:</b>				
State	0.030 %	0.030 %	0.030 %	0.030 %
<b>Medical Insurance Fund:</b>				
Member	2.270 %	2.270 %	1.750 %	1.750 %
State Match	<u>2.270</u>	<u>1.270</u>	<u>1.750</u>	<u>0.750</u>
Total	4.540 %	3.540 %	3.500 %	2.500 %
<b>Total Contributions</b>	<u>36.460 %</u>	<u>36.460 %</u>	<u>33.520 %</u>	<u>33.520 %</u>
Member Statutory	9.895 %	9.895 %	9.375 %	9.375 %
State Statutory	13.145	13.145	12.625	12.625
Required Increase	10.420	10.420	8.020	8.020
State Special	<u>3.000</u>	<u>3.000</u>	<u>3.500</u>	<u>3.500</u>
Total	36.460 %	36.460 %	33.520 %	33.520 %



**Contribution Rates for Non-University Members**

Valuation Date For Fiscal Year Ending	June 30, 2012		June 30, 2011	
	June 30, 2015		June 30, 2014	
	Members hired before 7/1/2008	Members hired on or after 7/1/2008	Members hired before 7/1/2008	Members hired on or after 7/1/2008
Pension Plan:				
Normal	15.150 %	15.150 %	15.050 %	15.050 %
Accrued liability	<u>19.700</u>	<u>20.700</u>	<u>17.900</u>	<u>18.900</u>
Total	34.850 %	35.850 %	32.950 %	33.950 %
Member	9.105 %	9.105 %	9.105 %	9.105 %
State (ARC)	<u>25.745</u>	<u>26.745</u>	<u>23.845</u>	<u>24.845</u>
Total	34.850 %	35.850 %	32.950 %	33.950 %
Life Insurance Fund:				
State	0.030 %	0.030 %	0.030 %	0.030 %
Medical Insurance Fund:				
Member	3.000 %	3.000 %	2.250 %	2.250 %
State Match	<u>3.000</u>	<u>2.000</u>	<u>2.250</u>	<u>1.250</u>
Total	6.000 %	5.000 %	4.500 %	3.500 %
Total Contributions	<u>40.880 %</u>	<u>40.880 %</u>	<u>37.480 %</u>	<u>37.480 %</u>
Member Statutory	12.105 %	12.105 %	11.355 %	11.355 %
State Statutory	15.355	15.355	14.605	14.605
Required Increase	10.420	10.420	8.020	8.020
State Special	<u>3.000</u>	<u>3.000</u>	<u>3.500</u>	<u>3.500</u>
Total	40.880 %	40.880 %	37.480 %	37.480 %

2. The valuation includes only the assets and liabilities associated with the pension plan. The valuation of the Medical Insurance Fund and the Active and Retired Life Insurance Benefits will be prepared separately.
3. Comments on the valuation results as of June 30, 2012 are given in Section IV and further discussion of the contribution levels is set out in Sections V and VI.
4. Schedule B shows the development of the actuarial value of assets. Schedule E of this report outlines the full set of actuarial assumptions and methods employed in the current valuation. There have been no changes since the previous valuation.
5. The System currently uses a smoothed interest rate methodology to determine liabilities. The development of the smoothed interest rate used in the June 30, 2012 valuation is shown in Schedule D.
6. Provisions of the System, as summarized in Schedule G, were taken into account in the current valuation. There have been no changes since the previous valuation.



Section II - MEMBERSHIP DATA

1. Data regarding the membership of the System for use as a basis of the valuation were furnished by the Retirement System office. The following table shows the number of active members and their annual salaries as of June 30, 2012 on the basis of which the valuation was prepared.

Group	Number	Annual Salaries (\$1,000's)
Full Time	58,874	\$ 3,361,793
Part Time	<u>7,077</u>	<u>117,774</u>
Total	<u>75,951</u>	<u>\$ 3,479,567</u>

The table reflects the active membership for whom complete valuation data was submitted. The results of the valuation were adjusted to take account of inactive members and members for whom incomplete data was submitted.

2. The following table shows the number and annual retirement allowances payable to annuitants and beneficiaries on the roll of the Retirement System as of the valuation date.

**The Number and Annual Retirement Allowances of Annuitants and Beneficiaries on the Roll as of June 30, 2012**

Group	Number	Annual Retirement Allowances <sup>1</sup> (\$1,000's)
Service Retirements	40,152	\$ 1,392,874
Disability Retirements	2,477	67,006
Beneficiaries of Deceased Members	<u>3,465</u>	<u>65,304</u>
Total	<u>46,094</u>	<u>\$ 1,525,184</u>

<sup>1</sup> Includes cost-of-living adjustments effective through July 1, 2012.

3. Table 1 of Schedule H shows a distribution by age and years of service of the number and annual salaries of active members included in the valuation, while Table 2 shows the number and annual retirement allowances of annuitants and beneficiaries included in the valuation, distributed by age.



### Section III - ASSETS

1. As of June 30, 2012 the market value of Pension Plan assets for valuation purposes held by the System amounted to \$14,797,120,889. This value excludes assets in the Medical Insurance Fund, the 403(b) Program Reserve Fund, and the Life Insurance Fund, which are not included in the assets used for Pension Plan valuation purposes.
2. The five-year market related value of Pension Plan assets used for valuation purposes as of June 30, 2012 was \$14,691,371,043. Schedule B shows the development of the actuarial value of assets as of June 30, 2012.
3. Schedule C shows the receipts and disbursements for the year preceding the valuation date and a reconciliation of the asset balances for the Pension Plan.

### Section IV - COMMENTS ON VALUATION

1. Schedule A of this report contains the valuation balance sheet which shows the present and prospective assets and liabilities of the System as of June 30, 2012. The valuation was prepared in accordance with the actuarial assumptions and the actuarial cost method, which are described in Schedule E and Schedule F.
2. The valuation balance sheet shows that the System has total prospective liabilities of \$15,391,786,788 for benefits expected to be paid on account of the present active members. The liability on account of benefits payable to annuitants and beneficiaries amounts to \$16,229,256,850 of which \$832,505,614 is for special appropriations remaining to be made toward funding minimum annuities, ad hoc increases and sick leave allowances granted after 1981. The liability for benefits expected to be paid to inactive members and to members entitled to deferred vested benefits is \$242,964,774. The total prospective liabilities of the System amounts to \$31,864,008,412. Against these liabilities, the System has present assets for valuation purposes of \$14,691,371,043. When this amount is deducted from the total liabilities of \$31,864,008,412, there remains \$17,172,637,369 as the present value contributions to be made in the future.
3. The employer's contributions to the System consist of normal contributions and accrued liability contributions. The valuation indicates that employer normal contributions at the rate of 11.79% of payroll for University and 15.15% of payroll for Non-University are required.
4. Prospective normal employer and employee contributions have a present value of \$4,890,154,454. When this amount is subtracted from \$17,172,637,369, which is the present value of the total future contributions to be made by the employer, there remains \$12,282,482,915 as the amount of future unfunded accrued liability contributions.

### Section V - CONTRIBUTIONS PAYABLE UNDER THE SYSTEM

1. Section 161.540 of the retirement law provides that each university member contribute 9.895% of annual salary to the System and each non-university member contribute 12.105% of annual salary. Of this amount, for each university member, 2.27% is paid to the Medical Insurance Fund for medical benefits and for each non-university member, 3.00% is paid to the Medical Insurance Fund for medical benefits. The remainder, 7.625% for university members and 9.105% for non-university members, is applicable for the retirement benefits taken into account in the valuation.
2. Section 161.550 provides that the State will match a portion of the member contributions and contribute a supplemental 3.25% of members' salaries towards discharging the System's unfunded obligations. Additional contributions are made to the Medical Insurance Fund as required under 161.550(3).



3. Therefore for university members, 10.875% of the salaries of active members who become members before July 1, 2008 and 11.875% of the salaries of active members who become members on or after July 1, 2008 is funded by statute or supplemental funding for the Pension Plan and Life Insurance Fund. For non-university members, 12.355% of the salaries of active members who become members before July 1, 2008 and 13.355% of the salaries of active members who become members on or after July 1, 2008 is funded by statute or supplemental funding for the Pension Plan and Life Insurance Fund. Of these amounts, 0.03% of payroll will be allocated to the Life Insurance Fund. Based on the results of the valuation, an additional 10.42% of payroll for both university and non-university will be required in order to maintain the amortization of the unfunded liability of the Pension Plan within a 30-year period. An additional special appropriation of 3.00% of total payroll will be made by the State. Therefore, the total required employer contribution rate to the Pension Plan is 24.265% for university members who become members before July 1, 2008 and 25.265% for university members who become members on or after July 1, 2008. The total required employer contribution rate to the Pension Plan is 25.745% for non-university members who become members before July 1, 2008 and 26.745% for non-university members who become members on or after July 1, 2008. The total member and employer contribution rates to the Pension Plan are shown in the following table.

<b>Contribution Rates by Source</b>		
<b>University</b>		
<b><u>Member</u></b>	Members hired before 7/1/2008	Members hired on or after 7/1/2008
Statutory Total	9.895 %	9.895 %
Statutory Medical Insurance Fund	<u>(2.270)</u>	<u>(2.270)</u>
Contribution to Pension Plan	7.625 %	7.625 %
<b><u>Employer</u></b>		
Statutory Matching Total	9.895 %	9.895 %
Statutory Medical Insurance Fund	(2.270)	(1.270)
Supplemental Funding	<u>3.250</u>	<u>3.250</u>
Subtotal	10.875 %	11.875 %
Life Insurance	(0.030) %	(0.030) %
Additional to Maintain 30-Year Amortization	10.420	10.420
Special Appropriation	<u>3.000</u>	<u>3.000</u>
Contribution to Pension Plan	24.265 %	24.265 %
Total Contribution to Pension Plan	31.890 %	32.890 %



<b>Contribution Rates by Source Non-University</b>		
<u>Member</u>	Members hired before 7/1/2008	Members hired on or after 7/1/2008
Statutory Total	12.105 %	12.105 %
Statutory Medical Insurance Fund	<u>(3.000)</u>	<u>(3.000)</u>
Contribution to Pension Plan	9.105 %	9.105 %
 <b><u>Employer</u></b>		
Statutory Matching Total	12.105 %	12.105 %
Statutory Medical Insurance Fund	(3.000)	(2.000)
Supplemental Funding	<u>3.250</u>	<u>3.250</u>
Subtotal	12.355 %	13.355 %
Life Insurance	(0.030) %	(0.030) %
Additional to Maintain 30-Year Amortization	10.420	10.420
Special Appropriation	<u>3.000</u>	<u>3.000</u>
Contribution to Pension Plan	25.745 %	26.745 %
 Total Contribution to Pension Plan	 34.850 %	 35.850 %

4. The valuation indicates that normal contributions at the rate of 11.79% of active university members' salaries and 15.15% of active non-university members' salaries are required. The difference between the total contribution rate and the normal rate remains to be applied toward the liquidation of the unfunded actuarial accrued liability. This accrued liability rate is 20.10% for university members hired before July 1, 2008, 21.10% for university members hired on and after July 1, 2008, 19.70% for non-university members hired before July 1, 2008, and 20.70% for non-university members hired on and after July 1, 2008. These rates include special appropriations of 3.00% of payroll to be made by the State. These rates are shown in the following table.

<b>Actuarially Determined Contribution Rates</b>				
Rate	Percentage of Active Members' Salaries			
	UNIVERSITY		NON-UNIVERSITY	
	Members hired before 7/1/2008	Members hired on or after 7/1/2008	Members hired before 7/1/2008	Members hired on or after 7/1/2008
Normal	11.79 %	11.79 %	15.15 %	15.15 %
Accrued Liability *	<u>20.10</u>	<u>21.10</u>	<u>19.70</u>	<u>20.70</u>
Total	31.89 %	32.89 %	34.85 %	35.85 %

\* Includes special appropriations of 3.00% of payroll to be made by the State.



- 5. The unfunded actuarial accrued liability amounts to \$12,282,482,915 as of the valuation date. Accrued liability contributions at the rates in the table above are sufficient to amortize the unfunded actuarial accrued liability over a 30-year period, based on the assumption that the payroll will increase by 4.0% annually.

**Section VI - COMMENTS ON LEVEL OF FUNDING**

- 1. Our calculations indicate that the contribution rates shown in the previous section will be sufficient to cover the benefits of the System, the annual 1.5% increases in the allowances of retired members and beneficiaries, and the liabilities for minimum annuities, ad hoc increases and sick leave allowances granted after 1981.
- 2. The valuation indicates that the present statutory contribution rates, supplemental funding and special appropriations, if continued at the current level percentage, along with an additional required contribution of 10.42%, not currently provided in statute, are sufficient to meet the cost of benefits currently accruing and provide for the amortization of the unfunded actuarial accrued liability over a period of 30 years. However, as existing special contributions expire, the statutory contributions or supplemental funding will be required to increase as an equal percentage of payroll, in order to amortize the unfunded liability within a period of 30 years.
- 3. During the 2005 through 2010 fiscal years, a portion of the contributions required for the pension fund were allocated as loans to the Medical Insurance Fund for Stabilization Funding. Beginning with the 2009 fiscal year, contributions have also been allocated as loans for non-single subsidy funding. Payments are being made to repay these loans. In August 2011, a pension obligation bond was issued with proceeds used to fully repay the loans for the Stabilization Funding. In addition, it is our understanding that beginning with the 2011 fiscal year, there will be no further loans for Stabilization Funding. The following table shows the amounts borrowed, annual payments and remaining balances for the non-single subsidy funding as of June 30, 2012:

<b>Medical Insurance Fund Stabilization Funding</b>			
<b>FISCAL YEAR</b>	<b>LOAN AMOUNT</b>	<b>ANNUAL PAYMENT</b>	<b>BALANCE AS OF JUNE 30, 2012</b>
2008/2009*	\$ 8,400,000	\$ 1,228,900	\$ 6,645,514
2009/2010*	9,200,000	1,345,200	8,037,793
2010/2011*	10,700,000	1,564,500	10,172,724
2011/2012	<u>12,300,000</u>	<u>1,798,700</u>	<u>12,300,000</u>
TOTAL	\$ 40,600,000	\$ 5,937,300	\$ 37,156,031

\* For non-single subsidy funding.

- 4. There are no excess assets or contributions available to provide additional benefits, and there is a cumulative increase in the required employer contribution of 10.42% of payroll for the fiscal year ending June 30, 2015, as shown in the following table:





VALUATION DATE	FISCAL YEAR	INCREASE	CUMULATIVE INCREASE
June 30, 2004	June 30, 2007	0.11%	0.11%
June 30, 2005	June 30, 2008	1.21	1.32
June 30, 2006	June 30, 2009	0.56	1.88
June 30, 2007	June 30, 2010	0.58	2.46
June 30, 2008	June 30, 2011	1.13	3.59
June 30, 2009	June 30, 2012	2.22	5.81
June 30, 2010	June 30, 2013	1.46	7.27
June 30, 2011	June 30, 2014	0.75	8.02
June 30, 2012	June 30, 2015	2.40	10.42

In addition, as existing special contributions expire, the statutory contributions or supplemental funding will be required to increase as an equal percentage of payroll, in order to amortize the unfunded liability within 30 years. Any further benefit improvements must be accompanied by the entire additional contributions necessary to support the benefits.

**Section VII - ANALYSIS OF FINANCIAL EXPERIENCE**

The following table shows the estimated gain or loss from various factors that resulted in an increase of \$1,221,928,683 in the unfunded accrued liability from \$11,060,554,232 to \$12,282,482,915 during the year ending June 30, 2012.

**Analysis of Financial Experience  
(Dollar amounts in thousands)**

ITEM	AMOUNT OF INCREASE/ (DECREASE)
Interest (8.00%) added to previous unfunded accrued liability	\$ 884,844
Expected accrued liability contribution	(377,897)
Contributions allocated to the Medical Insurance Fund (MIF) for Stabilization Funding during 2011/2012 fiscal year with interest	12,792
Repayment of prior year's MIF Stabilization Funding with interest	(4,304)
Experience:	
Valuation asset growth	740,509
Pensioners' mortality	15,768
Turnover and retirements	34,857
New entrants	53,409
Salary increases	(108,489)
Amendments	0
Assumption changes*	(29,560)
Method changes	0
Total	\$ 1,221,929

\* Change occurs due to interest smoothing methodology.



**Section VIII - ACCOUNTING INFORMATION**

1. Governmental Accounting Standards Board Statements 25 and 27 set forth certain items of required supplementary information to be disclosed in the financial statements of the System and the employer. One such item is a distribution of the number of employees by type of membership, as follows:

GROUP	NUMBER
Retirees and beneficiaries currently receiving benefits	46,094
Terminated employees entitled to benefits but not yet receiving benefits	6,668
Active plan members	<u>75,951</u>
Total	128,713

2. Another such item is the schedule of funding progress as shown below.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL)* (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) /c)
6/30/2007	\$ 15,284,955	\$ 21,254,974	\$ 5,970,019	71.9%	\$ 2,975,289	200.7%
6/30/2008	15,321,325	22,460,304	7,138,979	68.2	3,190,332	223.8
6/30/2009	14,885,981	23,400,426	8,514,445	63.6	3,253,077	261.7
6/30/2010	14,851,330	24,344,316	9,492,986	61.0	3,321,614	285.8
6/30/2011 **	14,908,138	25,968,692	11,060,554	57.4	3,451,756	320.4
6/30/2012	14,691,371	26,973,854	12,282,483	54.5	3,479,567	353.0

\* Funding method Projected Unit Credit prior to 6/30/2011  
Funding method Entry Age Normal 6/30/2011 and after

\*\* Reflects change in assumptions and methods



3. The information presented in the required supplementary schedules was determined as part of the actuarial valuation at June 30, 2012. Additional information as of the latest actuarial valuation follows.

Valuation date	06/30/2012	<b>Actuarial Assumptions:</b> <u>Investment rate of return*</u> 7.50% <u>Projected salary increases**</u> 4.00 - 8.20%  <u>Cost-of-living adjustments</u> 1.50% Annually  *Includes price inflation at 3.50% **Includes wage inflation at 4.00%
Actuarial cost method	Entry age	
Amortization method	Level percent of pay, open	
Remaining amortization period	30 years	
Asset valuation method	5-year smoothed market	

**Schedule of Employer Contributions**

<u>Fiscal Year Ended</u> <u>June 30</u>	<u>Annual Required</u> <u>Contributions</u>	<u>Actual Employer</u> <u>Contributions</u>	<u>Percentage</u> <u>Contributed</u>	
2007	\$ 494,565,369	\$ 434,890,469	88 %	
2008	563,789,483	466,247,783	83	
2009	600,282,735	442,549,935	74	* Includes Pension
2010	633,938,088	479,805,088	76	Obligation Bond
2011	678,741,428	1,037,935,993*	153	proceeds of
2012	757,822,190	557,339,552	74	\$465,384,165.

4. Following is the calculation of the annual pension cost and net pension obligation for the fiscal year ending June 30, 2012. Since KTRS is a cost sharing multi employer pension plan, GASB Statement 27 does not require the participating employers to disclose this information.

**Annual Pension Cost and Net Obligation for Fiscal Year Ending June 30, 2012**

(a)	Employer annual required contribution	\$ 757,822,190
(b)	Interest on net pension obligation	18,363,874
(c)	Adjustment to annual required contribution	<u>12,271,380</u>
(d)	Annual pension cost: (a) + (b) - (c)	763,914,684
(e)	Employer contributions made for fiscal year ending June 30, 2012	<u>557,339,552</u>
(f)	Increase (decrease) in net pension obligation: (d) - (e)	206,575,132
(g)	Net pension obligation beginning of fiscal year	<u>229,548,428</u>
(h)	Net pension obligation end of fiscal year: (f) + (g)	\$ 436,123,560



**Schedule of Employer Contributions**  
**KENTUCKY TEACHERS' RETIREMENT SYSTEM**

**Trend Information**

YEAR ENDING	ANNUAL PENSION COST (APC)	PERCENTAGE OF APC CONTRIBUTED	NET PENSION OBLIGATION (NPO)
June 30, 2010	\$ 642,840,908	75%	\$ 576,328,182
June 30, 2011	691,156,239	150	229,548,428
June 30, 2012	763,914,684	73	436,123,560

**SCHEDULE A**  
**VALUATION BALANCE SHEET**  
**SHOWING THE PRESENT AND PROSPECTIVE ASSETS AND LIABILITIES**  
**AS OF JUNE 30, 2012**  
**(Dollar amount in thousands)**

**ACTUARIAL LIABILITIES**

(1)	Present value of prospective benefits payable in respect of present active members		
	- Service retirement benefits	\$ 14,341,125	
	- Disability retirement benefits	706,593	
	- Death and survivor benefits	131,049	
	- Refunds of member contributions	<u>213,019</u>	
	Total		\$ 15,391,786
(2)	Present value of prospective benefits payable on account of present retired members, beneficiaries of deceased members, and members entitled to deferred vested benefits		
	- Service retirement benefits	\$ 15,035,616	
	- Disability retirement benefits	622,588	
	- Death and survivor benefits	<u>571,053</u>	
	Total		\$ 16,229,257
(3)	Present value of prospective benefits payable on account of inactive members and members entitled to deferred vested benefits		<u>\$ 242,965</u>
(4)	TOTAL ACTUARIAL LIABILITIES		<u><u>\$ 31,864,008</u></u>

**PRESENT AND PROSPECTIVE ASSETS**

(5)	Actuarial value of assets		\$ 14,691,371
(6)	Present value of total future contributions = (4)-(5)		17,172,637
(7)	Present value of future member contributions and employer normal contributions		4,890,154
(8)	Prospective unfunded accrued liability contributions = (6)-(7)		<u>12,282,483</u>
(9)	TOTAL PRESENT AND PROSPECTIVE ASSETS		<u><u>\$ 31,864,008</u></u>



*Schedule A continued ...*  
**Solvency Test**  
*(in millions of dollars)*

Fiscal Year Ending	(1)	(2)	(3)	Valuation of Assets	Portion of Accrued Liabilities Covered by Assets		
	Active Member Contributions	Retirants And Beneficiaries	Active Members (Employer Financed Portion)		(1)	(2)	(3)
6/30/2007	\$ 2,762.8	\$ 12,843.7	\$ 5,648.5	\$ 15,285.0	100%	97 %	0%
6/30/2008	2,899.0	13,585.8	5,975.5	15,321.3	100	91	0
6/30/2009	3,042.3	14,309.9	6,048.2	14,886.0	100	83	0
6/30/2010	3,196.3	15,010.4	6,137.6	14,851.3	100	78	0
6/30/2011	3,325.7	15,557.9	7,085.1	14,908.1	100	74	0
6/30/2012	3,415.2	16,472.2	7,086.4	14,691.4	100	68	0

**SCHEDULE B**  
**Development of Actuarial Value of Assets**  
**as of June 30, 2012**

(1)	Actuarial Value of Assets Beginning of Year	\$ 14,908,138,356
(2)	Market Value of Assets End of Year	14,797,120,889
(3)	Market Value of Assets Beginning of Year	15,130,606,279
(4)	Cash Flow	
	a. Contributions	867,069,476
	b. Benefit Payments	1,502,488,238
	c. Administrative Expense	<u>7,762,880</u>
	d. Net: (4)a - (4)b - (4)c	(643,181,642)
(5)	Investment Income	
	a. Market total: (2) - (3) - (4)d	309,696,252
	b. Assumed Rate	7.50%
	c. Amount for Immediate Recognition: [ (3) x (5)b ] + [ (4)d x (5)b x 0.5 ]	1,110,676,159
	d. Amount for Phased-In Recognition: (5)a - (5)c	(800,979,907)
(6)	Phased-In Recognition of Investment Income	
	a. Current Year: 0.20 x (5)d	(160,195,981)
	b. First Prior Year	363,670,625
	c. Second Prior Year	133,378,916
	d. Third Prior Year	(611,235,941 )
	e. Fourth Prior Year	<u>(409,879,449)</u>
	f. Total Recognized Investment Gain	(684,261,830)
(7)	Actuarial Value of Assets End of Year: (1) + (4)d + (5)c + (6)f	<u>14,691,371,043</u>
(8)	Difference Between Market & Actuarial Values: (2) - (7)	<u>\$ 105,749,846</u>
(9)	Rate of Return on Actuarial Value:	2.92%



**SCHEDULE C  
PENSION PLAN ASSETS  
Summary of Receipts & Disbursements\*  
(Market Value)**

	<b>For the Year Ending</b>	
	<b>June 30, 2012</b>	<b>June 30, 2011</b>
<b>Receipts for the Year</b>		
Contributions		
Members	\$ 309,729,924	\$ 302,262,819
Employers	557,339,552	1,037,935,993
Total	867,069,476	1,340,198,812
Net Investment Income	309,696,252	2,760,972,224
Total	1,176,765,728	4,101,171,036
<b>Disbursements for the Year</b>		
Benefit Payments	1,482,939,165	1,402,535,713
Refunds to Members	19,549,073	17,325,387
Miscellaneous, including expenses	7,762,880	7,322,739
Total	1,510,251,118	1,427,183,839
<b>Excess of Receipts over Disbursements</b>	(333,485,390)	2,673,987,197
<b>Reconciliation of Asset Balances</b>		
Asset Balance as of the Beginning of the Year	15,130,606,279	12,456,619,082
Excess of Receipts over Disbursements	(333,485,390)	2,673,987,197
Asset Balances as of the End of the Year	\$ 14,797,120,889	\$ 15,130,606,279
Rate of Return	2.4%	21.60%

\* Excludes assets for Medical Insurance Fund, the 403(b) Program Reserve Fund and the Life Insurance Fund.

**SCHEDULE D  
SMOOTHED INTEREST RATE  
Actual Rate of Return for 5-Year Look Back Period**

Fiscal Year Ending June 30	Actual Rate of Return for Fiscal Year
2008	-5.7%
2009	-14.3
2010	13.1
2011	21.6
2012	2.4

SMOOTHED INTEREST RATE: The assumed rate of return during the 25 year look forward period beginning on the valuation date. This is the investment rate of return expected to be earned during this period based on the actual rates earned during the five year look back period shown above such that the average rate of return over the combined 30 year period is equivalent to the ultimate investment rate of return (currently 7.50%). On this basis, for the June 30, 2012 valuation, the smoothed interest rate during the 25 year look forward period has been determined to be 8.50%.

ULTIMATE INVESTMENT RATE OF RETURN (DISCOUNT RATE): The assumed investment rate of return used in determining the smoothed interest rate described above. This is also the assumed investment rate of return after the 25 year look forward period and is currently 7.50%.

CORRIDOR AROUND SMOOTHED INTEREST RATE: A corridor of 0.50% around the ultimate investment rate of return is applied in determining the smoothed interest rate.

LIMITED SMOOTHED INTEREST RATE: The assumed rate of return during the 25 year look forward period as limited based on the application of the corridor above and used for valuation purposes. Since the smoothed interest rate above is 8.50% the assumed rate for the first 25 years after the valuation date is limited to 8.00% by the corridor.



**SCHEDULE E**

**Outline of Actuarial Assumptions and Methods**

The assumptions and methods used in the valuation were selected based on the actuarial experience study prepared as of June 30, 2010, submitted to and adopted by the Board on September 19, 2011.

**ULTIMATE INVESTMENT RATE OF RETURN:** 7.5% per annum, compounded annually.

**SALARY INCREASES:** Representative values of the assumed annual rates of future salary increases are as follows and include inflation at 3.5% per annum:

Age	20	25	30	35	40	45	50	55	60	65
Annual Rate	8.10%	7.20%	6.20%	5.50%	5.00%	4.60%	4.50%	4.30%	4.20%	4.00%

**SEPARATIONS FROM SERVICE:** Representative values of the assumed annual rates of death, disability, withdrawal, service retirement and early retirement are as follows:

MALES: Annual Rate of . . .							
AGE	DEATH	DISABILITY	WITHDRAWAL			RETIREMENT	
			SERVICE			Before 27 Years of Service	After 27 Years of Service*
			0 - 4	5 - 9	10+		
20	0.012%	0.01%	9.00%				
25	0.015	0.01	9.00	3.00%			
30	0.020	0.02	9.00	3.00	3.00%		
35	0.035	0.05	10.00	3.25	1.75		
40	0.046	0.09	10.00	4.00	1.40		
45	0.058	0.18	11.00	4.00	1.50		17.0%
50	0.074	0.33	9.00	4.00	2.00		17.0
55	0.124	0.55	12.00	3.50	2.50	5.5%	35.0
60	0.244	0.70	12.00	3.50	2.50	13.0	24.0
62	0.324	0.70	12.00	3.50	2.50	15.0	25.0
65	0.480	0.70	12.00	3.50	2.50	21.0	26.0
70	0.821	0.70	0.00	0.00	0.00	100.0	100.0

*\*Plus 10% in year when first eligible for unreduced retirement with 27 years of service.*



FEMALES: Annual Rate of . . .							
AGE	DEATH	DISABILITY	WITHDRAWAL			RETIREMENT	
			SERVICE			Before 27 Years of Service	After 27 Years of Service*
			0 - 4	5 - 9	10+		
20	0.007%	0.01%	7.00%				
25	0.008	0.02	8.50	4.00%			
30	0.010	0.04	9.00	4.00	1.65%		
35	0.017	0.08	9.00	3.75	1.85		
40	0.024	0.14	8.50	3.25	1.50		
45	0.037	0.32	7.50	3.25	1.25		15.0%
50	0.055	0.42	9.50	3.50	1.75		15.0
55	0.103	0.56	11.00	4.00	2.00	6.0%	35.0
60	0.201	0.85	11.00	4.00	2.00	14.0	30.0
62	0.263	0.85	11.00	4.00	2.00	12.0	25.0
65	0.390	0.85	11.00	4.00	2.00	22.0	30.0
70	0.672	0.85	0.00	0.00	0.00	100.0	100.0

*\*Plus 10% in year when first eligible for unreduced retirement with 27 years of service.*

**DEATHS AFTER RETIREMENT:** The RP-2000 Combined Mortality Table projected to 2020 using scale AA (set back one year for females) is used for death after service retirement and beneficiaries. The RP-2000 Disabled Mortality Table (set back seven years for males and set forward five years for females) is used for death after disability retirement. Mortality improvement is anticipated under these assumptions as recent mortality experience shows actual deaths are approximately 4% greater for healthy lives and 5% greater for disabled lives than expected under the selected tables. Representative values of the assumed annual rates of death after service retirement and after disability retirement are shown below:

**ASSETS:** Five-year market related actuarial value, as developed in Schedule B. The actuarial value of assets recognizes a portion of the difference between the market value of assets and the expected actuarial value of assets, based on the ultimate assumed valuation rate of return of 7.50%. The amount recognized each year is 20% of the difference between market value and expected actuarial value.

Annual Rate of Death After . . .				
Age	Service Retirement		Disability Retirement	
	MALE	FEMALE	MALE	FEMALE
45	0.1161%	0.0745%	2.2571%	1.1535%
50	0.1487	0.1100	2.2571	1.6544
55	0.2469	0.2064	2.6404	2.1839
60	0.4887	0.4017	3.2859	2.8026
65	0.9607	0.7797	3.9334	3.7635
70	1.6413	1.3443	4.6584	5.2230
75	2.8538	2.1680	5.6909	7.2312
80	5.2647	3.6066	7.3292	10.0203
85	9.6240	6.1634	9.7640	14.0049
90	16.9280	11.2205	12.8343	19.4509
95	25.6992	17.5624	16.2186	23.7467

**EXPENSE LOAD:** None.

**PERCENT MARRIED:** 100%, with females 3 years younger than males.

**LOADS:** Unused sick leave: 2% of active liability.

**VALUATION INTEREST RATE SMOOTHING:** The valuation liabilities are calculated using a smoothed interest rate method. The interest rate assumed during the look forward period (currently 25 years from the valuation date) is the investment rate of return expected to be earned during the look forward period based on





the actual rate of return earned during the look back period (currently 5 years) such that the average assumed rate of return over the combined 30-year period is equivalent to the assumed ultimate investment rate of return (currently 7.50%). The interest rate after the 25-year look forward period is the ultimate investment rate of return of 7.50%.

**CORRIDOR LIMIT ON INTEREST RATE SMOOTHING:** The smoothed interest rate used during the 25-year look forward period is limited to a corridor of 0.50% around the ultimate investment rate of return.

## **SCHEDULE F**

### **Actuarial Cost Method**

1. The valuation is prepared on the projected benefit basis, under which the present value, at the interest rate assumed to be earned in the future (see Schedules C and E for a description of the interest rate used), of each active member's expected benefit at retirement or death is determined, based on his age, service, sex and compensation. The calculations take into account the probability of a member's death or termination of employment prior to becoming eligible for a benefit, as well as the possibility of his terminating with a service, disability or survivor's benefit. Future salary increases and post-retirement cost-of-living adjustments are also anticipated. The present value of the expected benefits payable on account of the active members is added to the present value of the expected future payments to retired members and beneficiaries and inactive members to obtain the present value of all expected benefits payable from the System on account of the present group of members and beneficiaries.
2. The employer contributions required to support the benefits of the System are determined following a level funding approach, and consist of a normal contribution and an accrued liability contribution.
3. The normal contribution is determined using the "entry age normal" method. Under this method, a calculation is made to determine the uniform and constant percentage rate of employer contribution which, if applied to the compensation of the average new member during the entire period of his anticipated covered service, would be required in addition to the contributions of the member to meet the cost of all benefits payable on his behalf.
4. The unfunded accrued liability is determined by subtracting the present value of prospective employer normal contributions and member contributions, together with the current actuarial value of assets held, from the present value of expected benefits to be paid from the System.

## **SCHEDULE G**

### **Summary of Main System Provisions as Interpreted for Valuation Purposes**

The Teachers' Retirement System of the State of Kentucky was established on July 1, 1940. The valuation took into account amendments to the System effective through June 30, 2012. The following summary describes the main benefit and contribution provisions of the System as interpreted for the valuation.

#### **1. DEFINITIONS**

"Final average salary" means the average of the five highest annual salaries which the member has received for service in a covered position and on which the member has made contributions or on which the public board, institution or agency has picked up the member contributions. For a member who retires after attaining age 55 with 27 years of service, "final average salary" means the average of the three highest annual salaries.



## 2. BENEFITS

### **Service Retirement Allowance: Members Before 7/1/2008**

**Condition for Allowance:** Completion of 27 years of service or attainment of age 55 and 5 years of service.

**Amount of Allowance:** The annual retirement allowance for non-university members is equal to:

- (a) 2.0% of final average salary multiplied by service before July 1, 1983, plus
- (b) 2.5% of final average salary multiplied by service after July 1, 1983.
- (c) For individuals who become members of the Retirement System on or after July 1, 2002 and have less than 10 years of service at retirement, the retirement allowance is 2.0% of final average salary multiplied by service. If, however, they have 10 or more years, they receive a benefit percentage of 2.5% for all years of service up to 30 years.
- (d) For members retiring on or after July 1, 2004, the retirement allowance formula is 3.0% of final average salary for each year of service credit earned in excess of 30 years.

The annual retirement allowance for university members is equal to 2.0% of final average salary multiplied by all years of service.

For all members, the annual allowance is reduced by 5% per year from the earlier of age 60 or the date the member would have completed 27 years of service.

The minimum annual service allowance for all members is \$440 multiplied by credited service.

### **Service Retirement Allowance: Members On or After 7/1/2008**

**Condition for Retirement:** Completion of 27 years of service, attainment of age 60 and 5 years of service or attainment of age 55 and 10 years of service.

**Amount of Allowance:** The annual retirement allowance for non-university members is equal to:

- (a) 1.7% of final average salary if service is 10 years or less.
- (b) 2.0% of final average salary if service is greater than 10 years and no more than 20 years.
- (c) 2.3% of final average salary if service is greater than 20 years but no more than 26 years.
- (d) 2.5% of final average salary if service is greater than 26 years but no more than 30 years.
- (e) 3.0% of final average salary for years of service greater than 30 years.

The annual retirement allowance for university members is equal to:

- (a) 1.5% of final average salary if service is 10 years or less.
- (b) 1.7% of final average salary if service is greater than 10 years and no more than 20 years.
- (c) 1.85% of final average salary if service is greater than 20 years but less than 27 years.
- (d) 2.0% of final average salary if service is greater than or equal to 27 years.

For all members, the annual allowance is reduced by 6% per year from the earlier of age 60 or the date the member would have completed 27 years of service.



**Disability Retirement Allowance**

**Condition for Allowance:** Totally and permanently incapable of being employed as a teacher and under age 60 but after completing 5 years of service.

**Amount of Allowance:** The disability allowance is equal to the greater of the service retirement allowance or 60% of the member's final average salary. The disability allowance is payable over an entitlement period equal to 25% of the service credited to the member at the date of disability or five years, whichever is longer. After the disability entitlement period has expired and if the member remains disabled, he will be retired under service retirement. The service retirement allowance will be computed with service credit given for the period of disability retirement. The allowance will not be less than \$6,000 per year. The service retirement allowance will not be reduced for commencement of the allowance before age 60 or the completion of 27 years of service.

**Benefits Payable on Separation from Service**

Any member who ceases to be in service is entitled to receive his contributions with allowable interest. A member who has completed 5 years of creditable service and leaves his contributions with the System may be continued in the membership of the System after separation from service, and file application for service retirement after the attainment of age 60.

**Life Insurance**

A separate Life Insurance fund has been created as of June 30, 2000, to pay benefits on behalf of deceased KTRS active and retired members.

**Death Benefits**

A surviving spouse of an active member with less than 10 years of service may elect to receive an annual allowance of \$2,880 except that if income from other sources exceeds \$6,600 per year the annual allowance will be \$2,160.

A surviving spouse of an active member with 10 or more years of service may elect to receive an allowance which is the actuarial equivalent of the allowance the deceased member would have received upon retirement. The allowance will commence on the date the deceased member would have been eligible for service retirement and will be payable during the life of the spouse.

If the deceased member is survived by unmarried children under age 18 the following schedule of annual allowances applies:

<b><u>Number of Children</u></b>	<b><u>1</u></b>	<b><u>2</u></b>	<b><u>3</u></b>	<b><u>4 or more</u></b>
<b><u>Annual Allowance</u></b>	\$ 2,400	\$ 4,080	\$ 4,800	\$ 5,280

The allowances are payable until a child attains age 18, or age 23 if a full-time student.  
If the member has no eligible survivor, a refund of his accumulated contributions is payable to his estate.

**Options:**

In lieu of the regular Option 1, a retirement allowance payable in the form of a life annuity with refundable balance, any member before retirement may elect to receive a reduced allowance which is actuarially equivalent to the full allowance, in one of the following forms:



- Option 2      A single life annuity payable during the member's lifetime with payments for 10 years certain.
- Option 3      At the death of the member his allowance is continued throughout the life of his beneficiary.
- Option 3(a)    At the death of the beneficiary designated by the member under Option 3, the member's benefit will revert to what would have been paid had he not selected an option.
- Option 4      At the death of the member one half of his allowance is continued throughout the life of his beneficiary.
- Option 4(a)    At the death of the beneficiary designated by the member under Option 4, the member's benefit will revert to what would have been paid had he not selected an option.

**Post-Retirement Adjustments**

The retirement allowance of each retired member and of each beneficiary shall be increased by 1.50% each July 1.

**3. CONTRIBUTIONS**

**Member Contributions**

University members contribute 7.625% of salary to the Retirement System. Non-university members contribute 9.105% of salary to the Retirement System. Member contributions are picked up by the employer.



**SCHEDULE H**  
**Table 1: Age - Service Table**  
**Distribution of Active Members as of June 30, 2012**  
**by Age and Service Groups**

Attained Age	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	>= 35	TOTAL
24 & under	2,365	1							2,366
Total Pay	40,846,000	45,000							40,891,000
Avg. Pay	17,271	45,000							17,283
25 to 29	7,069	1,365							8,434
Total Pay	222,006,000	64,597,000							286,603,000
Avg. Pay	31,406	47,324							33,982
30 to 34	3,713	5,255	908						9,876
Total Pay	109,834,000	260,683,000	50,523,000						421,040,000
Avg. Pay	29,581	49,607	55,642						42,633
35 to 39	2,605	2,485	4,229	628					9,947
Total Pay	70,984,000	124,123,000	248,149,000	40,344,000					483,600,000
Avg. Pay	27,249	49,949	58,678	64,242					48,618
40 to 44	3,521	1,920	2,490	3,371	673	1			11,976
Total Pay	77,925,000	98,559,000	146,062,000	217,339,000	45,705,000	205,000			585,795,000
Avg. Pay	22,131	51,333	58,659	64,473	67,912	205,000			48,914
45 to 49	1,722	1,231	1,454	1,576	2,373	651			9,007
Total Pay	40,472,000	63,140,000	85,800,000	102,363,000	160,069,000	44,672,000			496,516,000
Avg. Pay	23,503	51,292	59,010	64,951	67,454	68,621			55,126
50 to 54	1,483	956	1,148	1,173	1,332	1,704	336		8,132
Total Pay	30,482,000	48,757,000	67,472,000	76,713,000	91,714,000	122,232,000	24,752,000		462,122,000
Avg. Pay	20,554	51,001	58,774	65,399	68,854	71,732	73,667		56,828
55 to 59	2,153	667	955	1,048	1,068	792	444	74	7,201
Total Pay	33,635,000	33,944,000	57,464,000	69,754,000	74,916,000	59,806,000	35,896,000	6,522,000	371,937,000
Avg. Pay	15,622	50,891	60,172	66,559	70,146	75,513	80,847	88,135	51,651
60 to 64	2,643	533	520	596	625	418	114	113	5,562
Total Pay	36,178,000	25,746,000	32,732,000	41,293,000	45,923,000	33,164,000	10,223,000	11,375,000	236,634,000
Avg. Pay	13,688	48,304	62,946	69,284	73,477	79,340	89,675	100,664	42,545
65 & over	2,276	359	181	176	177	155	43	83	3,450
Total Pay	20,242,000	12,464,000	11,931,000	12,303,000	13,673,000	12,141,000	3,921,000	7,754,000	94,429,000
Avg. Pay	8,894	34,719	65,917	69,903	77,249	78,329	91,186	93,422	27,371
Total	29,550	14,772	11,885	8,568	6,248	3,721	937	270	75,951
Total Pay	682,604,000	732,058,000	700,133,000	560,109,000	432,000,000	272,220,000	74,792,000	25,651,000	3,479,567,000
Avg. Pay	23,100	49,557	58,909	65,372	69,142	73,158	79,821	95,004	45,813

Average Age: 43.6

Average Service: 11.0



**SCHEDULE H**

**Table 2: Number of Retired Members and Beneficiaries and their Benefits by Age as of June 30, 2012**

Attained Age	Number of Members	Total Annual Benefits	Average Annual Benefits
49 & Under	823	\$ 9,726,856	\$ 11,819
50 - 54	1,148	40,343,440	35,142
55 - 59	5,076	198,687,289	39,142
60 - 64	10,970	408,588,247	37,246
65 - 69	10,087	350,225,048	34,720
70 - 74	6,879	224,196,637	32,591
75 - 79	4,544	136,335,293	30,003
80 & Over	<u>6,567</u>	<u>157,080,688</u>	<u>23,920</u>
<b>TOTAL</b>	<b>46,094</b>	<b>\$ 1,525,183,498</b>	<b>\$ 33,089</b>

**SCHEDULE H**

**Table 3: Schedule of Retirants, Beneficiaries and Survivors Added to and Removed from Rolls**

Fiscal Year	ADD TO ROLLS		REMOVED FROM ROLLS		ROLLS END OF YEAR		Increase In Annual Allowances	Average Annual Allowance
	Number	Annual Allowances (Millions)	Number	Annual Allowances (Millions)	Number	Annual Allowances (Millions)		
2003	2,252	\$ 86.7	1,015	\$ 16.9	34,645	\$ 819.0	9.3%	\$ 23,641
2004	2,126	85.4	1,033	17.5	35,738	887.0	8.3	24,819
2005	2,644	105.1	1,036	18.9	37,346	973.1	9.7	26,058
2006	2,266	121.1	1,115	20.0	38,497	1,074.2	10.4	27,902
2007	2,050	82.1	1,041	20.7	39,506	1,135.6	5.7	28,746
2008	2,183	90.6	950	19.4	40,739	1,206.8	6.3	29,623
2009	2,351	96.2	1,040	22.7	42,050	1,280.3	6.1	30,447
2010	2,105	93.7	1,021	21.8	43,134	1,352.2	5.6	31,348
2011	2,133	98.9	848	17.7	44,419	1,433.4	6.0	32,270
2012	2,513	111.2	838	19.4	46,094	1,525.2	6.4	33,089

---

# Actuarial Section

---

Report of the Actuary  
on the  
Annual Valuation  
of the  
Retiree Medical and Life Insurance Plans  
for Fiscal Year ending June 30, 2013



# Cavanaugh Macdonald

CONSULTING, LLC

*The experience and dedication you deserve*

December 11, 2013

Board of Trustees  
Teachers' Retirement System of the State of Kentucky  
479 Versailles Road  
Frankfort, KY 40601-3800

Members of the Board:

Governmental Accounting Standards Board Statements No. 43 and 45 require the Teachers' Retirement System of the State of Kentucky (the System) to conduct actuarial valuations of the System's retiree medical and other post employment benefit plans. This report covers the Retiree Medical Plan funded by the Medical Insurance Fund (MIF) and OPEB liabilities related to the Life Insurance Plan funded by the Life Insurance Fund (LIF). Cavanaugh Macdonald Consulting, LLC (CMC) has submitted the results of the annual actuarial valuation prepared as of June 30, 2013. While not verifying the data at source, the actuary performed tests for consistency and reasonability.

The valuation indicates a total annual required contribution of 6.80% of active member payroll for the MIF payable for the fiscal year ending June 30, 2014 is required to support the benefits of the Kentucky Employees' Health Plan (KEHP) and the Medicare Eligible Health Plan (MEHP). Of this amount, 1.75% of payroll is estimated to be paid by University members and 2.25% of payroll is estimated to be paid by all other members, leaving 5.05% and 4.55% respectively, as the remaining annual required contribution. This annual required contribution reflects the actuarial value of assets of the MIF and an 8.00% discount rate for valuing liabilities.

Since the previous valuation, the methodology used to develop the actuarial value of assets has been changed from market value of assets to a five-year market related actuarial value. To reflect the plan design changes to be implemented for plan year 2014 for KEHP, the rates of anticipated health care plan election for the KEHP plans have been estimated. Additionally, the initial per capita costs of health care and the rates of health care inflation used to project the per capita health care costs have been revised since the previous valuation to reflect recent experience. Last, the MIF's reporting lag for accounting entries has been changed from 24 months to the valuation date prior to the beginning of the applicable fiscal year.

The Life Insurance Plan valuation indicates a total annual required contribution of 0.03% of active member payroll payable for the fiscal year ending June 30, 2016 is required to support the benefits of the LIF. This annual required contribution reflects the actuarial value of assets of the LIF and a 7.50% discount rate for valuing liabilities.

The promised benefits of the Retiree Medical and Life Insurance Plans are included in the actuarially calculated contribution rates which are developed using the entry age normal actuarial cost method. Five-year market related value of plan assets is used for actuarial valuation purposes. Gains and losses are reflected in the unfunded accrued liability that is being amortized by regular annual contributions as a level percentage of payroll within a 30-year period, on the assumption that payroll will increase by 4.00% annually. The assumptions recommended by the actuary and adopted by the Board are in aggregate reasonably related to the experience under the Retiree Medical and Life Insurance Plans and to reasonable expectations of anticipated experience under the Retiree Medical and Life Insurance Plans and meet the parameters for the disclosures under GASB 43 and 45.

3550 Busbee Pkwy, Suite 250, Kennesaw, GA 30144  
Phone (678) 388-1700 • Fax (678) 388-1730  
[www.CavMacConsulting.com](http://www.CavMacConsulting.com)

Offices in Englewood, CO • Kennesaw, GA • Bellevue, NE • Hilton Head Island, SC





Board of Trustees  
December 11, 2013  
Page 2

CMC has prepared the trend information shown in the Schedule of Funding Progress in the Financial Section of the Annual Report and Section VII shown in the Actuarial Section of the Annual Report.

This is to certify that the independent consulting actuaries are members of the American Academy of Actuaries and have experience in performing valuations for public retirement systems, that the valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board, and that the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the Retiree Medical and Life Insurance Plans and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the plans.

Future actuarial results may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

In our opinion, if the State contributions to the Medical Insurance Fund are increased to the planned levels, the Retiree Medical Plan will begin to operate in a more actuarially sound basis. Assuming that required contributions to the Medical Insurance Fund are made by the employer from year to year in the future at the levels required on the basis of the successive actuarial valuations, the actuarial soundness of the Medical Insurance Fund to provide the benefits called for under the Retiree Medical Plan will improve.

Respectfully submitted,

Eric Gary, FSA, FCA, MAAA  
Senior Actuary

Alisa Bennett, FSA, EA, FCA, MAAA  
Principal and Senior Actuary



Report of Actuary on the Annual Valuation of the Retiree Medical and Life Insurance Plans  
Prepared as of June 30, 2013

Section I - Summary of Principal Results

1. For convenience of reference, the principal results of the valuation and a comparison with the results of the previous valuation are summarized below (dollar amounts are in thousands):

Medical Insurance Fund		
Valuation Date	June 30, 2013	June 30, 2012
Number of active members	74,831	75,951
Annual salaries	\$ 3,480,066	\$ 3,479,567
Number of vested former members	4,910	3,641
Number of annuitants in medical plans	36,777	36,000
Number of spouses and beneficiaries in medical plans*	<u>7,053</u>	<u>7,008</u>
Total	43,830	43,008
Assets:		
Market value	\$ 413,666	\$ 338,746
Actuarial value	\$ 412,185	338,746
Unfunded actuarial accrued liability	3,108,888	\$ 3,255,794
Amortization period (years)	30	30
Discount rate	8.00%	8.00%

\* Spouses of post-65 retirees, as well as surviving spouses of deceased retirees on or after July 1, 2002, pay 100% of the full contribution. 100% of the full contribution for non-Medicare eligible dependents is paid through a combination of payments from beneficiaries and the State.

Medical Insurance Fund Contribution Rates for University Members				
Valuation Date For Fiscal Year Ending	June 30, 2013		June 30, 2012	
	Members hired before 7/1/2008	Members hired on or after 7/1/2008	Members hired before 7/1/2008	Members hired on or after 7/1/2008
Normal	1.92 %	1.92 %	1.99 %	1.99 %
Accrued liability	<u>4.88</u>	<u>4.88</u>	<u>5.11</u>	<u>5.11</u>
Total	6.80 %	6.80 %	7.10 %	7.10 %
Member	1.75 %	1.75 %	1.43 %	1.75 %
Employer (ARC)	1.75	0.75	1.43	0.75
State (ARC)	<u>3.30</u>	<u>4.30</u>	<u>4.24</u>	<u>4.60</u>
Total	6.80 %	6.80 %	7.10 %	7.10 %

Medical Insurance Fund Contribution Rates for School District Employees (Non-Federal)				
Valuation Date For Fiscal Year Ending	June 30, 2013		June 30, 2012	
	Members hired before 7/1/2008	Members hired on or after 7/1/2008	Members hired before 7/1/2008	Members hired on or after 7/1/2008
Normal	1.92 %	1.92 %	1.99 %	1.99 %
Accrued liability	<u>4.88</u>	<u>4.88</u>	<u>5.11</u>	<u>5.11</u>
Total	6.80 %	6.80 %	7.10 %	7.10 %
Member	2.25 %	2.25 %	1.75 %	1.75 %
Employer (ARC)	1.50	1.50	1.00	1.00
State (ARC)	<u>3.05</u>	<u>3.05</u>	<u>4.35</u>	<u>4.35</u>
Total	6.80 %	6.80 %	7.10 %	7.10 %



<b>Medical Insurance Fund Contribution Rates for Other Employees</b>				
Valuation Date For Fiscal Year Ending	June 30, 2013		June 30, 2012	
	June 30, 2014		June 30, 2013	
	Members hired before 7/1/2008	Members hired on or after 7/1/2008	Members hired before 7/1/2008	Members hired on or after 7/1/2008
Normal	1.92 %	1.92 %	1.99 %	1.99 %
Accrued liability	<u>4.88</u>	<u>4.88</u>	<u>5.11</u>	<u>5.11</u>
Total	6.80 %	6.80 %	7.10 %	7.10 %
Member	2.25 %	2.25 %	1.75 %	1.75 %
Employer (ARC)	2.25	1.25	1.75	.75
State (ARC)	<u>2.30</u>	<u>3.30</u>	<u>3.60</u>	<u>4.60</u>
Total	6.80 %	6.80 %	7.10 %	7.10 %

<b>Life Insurance Fund</b>			
(dollar amounts in thousands)			
Valuation Date	June 30, 2013		June 30, 2012
Number of active members	74,831		75,951
Annual salaries	\$ 3,480,066		\$ 3,479,567
Number of vested former members	3,839		3,641
Number of retirees in Life Insurance Plan	43,845		42,602
Assets:			
Market value	\$ 89,957		\$ 92,241
Actuarial value	\$ 94,863		\$ 92,241
Unfunded actuarial accrued liability*	\$ (538)		\$ (843)
Amortization period (years)	30		30
Discount rate	7.50%		7.50 %
Contribution for fiscal year ending	June 30, 2016		June 30, 2015
Normal	0.03 %		0.03 %
Accrued liability	<u>0.00</u>		<u>0.00</u>
Total	0.03 %		0.03 %
<p><i>** Includes liability for death in active service. This amount could be segregated from the OPEB liability and assets could be split for active and post employment purposes. However, since this could be administratively burdensome and since death in active service liabilities can be considered de minimis, it is acceptable to consider the entire liability an OPEB liability under GASB 43 and 45.</i></p>			

- The valuation indicates combined member, employer, and State contributions of 6.80% of active member payroll would be sufficient to support the current benefits of the Retiree Medical Plan and State contributions of 0.03% of active member payroll would be sufficient to support the current benefits of the Life Insurance Plan. Comments on the valuation results as of June 30, 2013 are given in Section IV and further discussion of the contribution levels is set out in Sections VI and VII.
- Since the previous valuation, the methodology used to develop the actuarial value of assets has been changed from market value of assets to a five-year market related actuarial value. Additionally, the initial per capita costs of health care and the rates of health care inflation used to project the per capita health care costs have been revised since the previous valuation to reflect recent experience.



Last, the MIF's reporting lag for accounting entries has been changed from 24 months to the valuation date prior to the beginning of the applicable fiscal year. Schedule D of this report outlines the full set of actuarial assumptions and methods employed in the current valuation.

- 4. There were no changes in benefit provisions since the last valuation. However, the health insurance plan designs have changed for eligible retirees. The changes are summarized below.
  - Plan design changes are to be implemented for Plan Year 2014 for the KEHP, the plans for active employees and non-Medicare eligible retirees administered by the Commonwealth of Kentucky. To reflect the plan design changes in the valuation's results, the rates of anticipated health care plan election for the KEHP plans have been estimated and the initial per capita costs of health care have been revised.
  - The level of coinsurance for non-preferred brand-name drugs (Tier 3, mail and retail) has been increased for Plan Year 2014 for the MEHP, the plan for Medicare eligible retirees administered by KTRS, helping to keep the MEHP initial per capita cost at its previous level. Additionally, the assumed rate of health care inflation for the fiscal year ending June 30, 2014 has been adjusted to 0.00% to reflect the anticipation of a more competitive cost structure for the MEHP resulting from the marketing process.

**Section II - MEMBERSHIP DATA**

- 1. Data regarding the membership of the Retiree Medical and Life Insurance Plans for use as a basis of the valuation were furnished by the System's office. The following tables summarize the membership of the System as of June 30, 2013, upon which the valuation was based. Detailed tabulations of the data are given in Schedule F.

Active Members as of June 30, 2013		
Group	Number	Annual Salaries (\$1,000's)
Full Time	58,390	\$ 3,366,097
Part Time	<u>16,441</u>	<u>113,969</u>
Total	<u>74,831</u>	<u>\$ 3,480,066</u>

*The table reflects the active membership for whom complete valuation data was submitted. The results of the valuation were adjusted to take account of inactive members and members for whom incomplete data was submitted.*

- 2. The following tables show the number of retired members and their beneficiaries receiving health care as of the valuation date as well as average ages.

Retirees Receiving Health Benefits as of June 30, 2013			
	Under Age 65	Age 65 and Over	TOTAL
Number	14,292	22,485	36,777
Average Age	60.4	74.2	68.8
Spouses Receiving Health Benefits as of June 30, 2013			
Number	3,141	3,912	7,053
Average Age	59.1	75.4	68.1

- 3. The Retiree Medical Plan valuation also includes 4,910 deferred vested members eligible for health care at age 60.



### Section III - ASSETS

1. As of June 30, 2013 the market value of Medical Insurance Fund assets held by the Retiree Medical Plan amounted to \$413,665,765 and the market value of Life Insurance Fund assets held by the Life Insurance Plan amounted to \$89,957,358.
2. The five-year market related value of Medical Insurance Fund assets used for valuation purposes as of June 30, 2013 was \$412,184,887 and the five-year market related value of Life Insurance Fund assets used for valuation purposes as of June 30, 2013 was \$94,863,265. Schedule B shows the development of the actuarial value of assets as of June 30, 2013.
3. Schedule C shows the receipts and disbursements for the year preceding the valuation date and a reconciliation of the asset balances for the Medical Insurance Fund and the Life Insurance Fund.

### Section IV - COMMENTS ON VALUATION

1. Schedule A of this report outlines the results of the actuarial valuation. The valuation was prepared in accordance with the actuarial assumptions and the actuarial cost method, which are described in Schedule D.
2. The valuation shows the Retiree Medical Plan has an actuarial accrued liability of \$1,519,278,878 for benefits expected to be paid on account of the present active membership, based on service to the valuation date. The liability on account of deferred vested members amounts to \$27,378,882. The liability on account of benefits payable to retirees and covered spouses amounts to \$1,974,414,969. The total actuarial accrued liability of the Retiree Medical Plan amounts to \$3,521,072,729. Against these liabilities, the Retiree Medical Plan has present assets for valuation purposes of \$412,184,887. When this amount is deducted from the actuarial accrued liability of \$3,521,072,729, there remains \$3,108,887,842 as the unfunded actuarial accrued liability for the Retiree Medical Plan.
3. The normal contribution is equal to the actuarial present value of benefits accruing during the current year. The normal contribution for the Retiree Medical Plan is determined to be \$66,890,587, or 1.92% of payroll.
4. The valuation shows that the Life Insurance Plan has an actuarial accrued liability of \$16,195,125 for benefits expected to be paid on account of the present active membership, based on service to the valuation date. The liability on account of deferred vested members amounts to \$1,819,103. The liability on account of benefits payable to retirees amounts to \$76,310,703. The total actuarial accrued liability of the Life Insurance Plan amounts to \$94,324,931. This amount includes liability for death in active service. The liability for death in active service could be segregated from the OPEB liability and assets could be split for active and post employment purposes. As this could be administratively burdensome and, as death in active service liabilities can be considered de minimis, it is acceptable to consider the entire liability an OPEB liability under GASB 43 and 45. Against these liabilities, the Life Insurance Plan has present assets for valuation purposes of \$94,863,265. When this amount is deducted from the actuarial accrued liability of \$94,324,931, there is a surplus of \$538,334 over the actuarial accrued liability for the life insurance plan.
5. The normal contribution is equal to the actuarial present value of benefits accruing during the current year. The normal contribution for the life insurance plan is determined to be \$1,051,588, or 0.03% of payroll.



**Section V - DERIVATION OF EXPERIENCE GAINS AND LOSSES**

1. Actual experience will never (except by coincidence) coincide exactly with assumed experience. It is assumed that gains and losses will be in balance over a period of years, but sizable year to year fluctuations are common. Detail on the derivation of the experience gain (loss) for the year ended June 30, 2013 is shown below (\$1,000's).

EXPERIENCE GAIN/(LOSS) OF THE:		MEDICAL INSURANCE FUND	LIFE INSURANCE FUND
(1)	UAAL* as of 6/30/2012	\$ 3,255,794	\$ (843)
(2)	Normal cost from last valuation	69,338	1,066
(3)	Expected employer contributions	<u>247,276</u>	<u>1,022</u>
(4)	Interest accrual: [(1) + (2) - (3)] x interest**	246,228	(60)
(5)	Expected UAAL before changes: (1) + (2) - (3) + (4)	3,324,084	(859)
(6)	Change due to plan amendments	0	0
(7)	Change due to new actuarial assumptions	0	0
(8)	Change due to claims experience	<u>(301,883)</u>	<u>0</u>
(9)	Expected UAAL after changes: (5) + (6) + (7) + (8)	3,022,201	(859)
(10)	Actual UAAL as of 6/30/2013	3,108,888	(538)
(11)	Total gain/(loss): (9) - (10)	(86,687)	(321)
	(a) Contribution shortfall and investment loss	<u>(22,779)</u>	<u>(544)</u>
	(b) Experience gain/(loss) (11) - (11a)	(63,908)	223
(12)	Accrued liabilities as of 6/30/2012	\$ 3,594,540	\$ 91,398
(13)	Experience gain/(loss) as percent of actuarial accrued liabilities at start of year (11b) / (12)	(1.8%)	0.2%

\* *Unfunded Actuarial Accrued Liability*  
 \*\* *Interest is 8.0% for the Medical Insurance Fund and 7.5% for the Life Insurance Fund*

**Section VI - CONTRIBUTIONS PAYABLE UNDER THE PLANS**

1. Sections 161.420 and 161.550 of the Kentucky Revised Statutes provide the amounts employers and the State are required to contribute to the Medical Insurance Fund. These contribution amounts vary by fiscal year, date of membership, and employee type.



Employer Percentage of Payroll Contributions Made to Medical Insurance Fund						
Fiscal Year Ending	UNIVERSITY EMPLOYEES		SCHOOL DISTRICT EMPLOYEES (Non-Federal)*		OTHER EMPLOYEES	
	Members hired before 7/1/2008	Members hired on or after 7/1/2008	Members hired before 7/1/2008	Members hired on or after 7/1/2008	Members hired before 7/1/2008	Members hired on or after 7/1/2008
2014	1.750%	0.750%	1.500%	1.500%	2.250%	1.250%
2015	2.270	1.270	2.250	2.250	3.000	2.000
2016 and Later	2.775	1.775	3.000	3.000	3.750	2.750

\* In addition to the amounts contributed by School Districts on behalf of Non-Federal employees, the State contributes 0.75%.

For the fiscal year ending June 30, 2014, member contributions will be 1.75% for University employees and 2.25% for all other members. CMC recommends employer and State contributions increase to the required amount of 5.05% of payroll for University employees and 4.55% of payroll for all other members. The State is scheduled to contribute 0.03% of salary to the Life Insurance Fund for the fiscal year ending June 30, 2015. CMC's valuation indicates a contribution of 0.03% for the fiscal year ending June 30, 2016 is required to sufficiently support the benefits of the life insurance plan.

Required Contribution Rates For Fiscal Year Ending June 30, 2014 Medical Insurance Fund						Required Contribution Rates Life Insurance Fund For Fiscal Year Ending June 30, 2016	
Normal		1.92%		Normal		0.03%	
Accrued liability		<u>4.88</u>		Accrued liability		<u>0.00</u>	
Total		6.80%		Total		0.03%	
	UNIVERSITY EMPLOYEES		SCHOOL DISTRICT EMPLOYEES (Non-Federal)		OTHER EMPLOYEES		
	Members hired prior 7/1/2008	Members hired on or after 7/1/2008	Members hired prior 7/1/2008	Members hired on or after 7/1/2008	Members hired prior 7/1/2008	Members hired on or after 7/1/2008	
Member	1.75%	1.75%	2.25%	2.25%	2.25%	2.25%	0.00%
Employer (ARC)	1.75	0.75	1.50	1.50	2.25	1.25	<u>0.03</u>
State (ARC)	<u>3.30</u>	<u>4.30</u>	<u>3.05</u>	<u>3.05</u>	<u>2.30</u>	<u>3.30</u>	0.03%
Total	6.80%	6.80%	6.80%	6.80%	6.80%	6.80%	

- The valuation indicates that a total normal contribution of 1.92% of payroll is required to meet the cost of benefits currently accruing under the Retiree Medical Plan and 0.03% of payroll is required to meet the cost of benefits currently accruing under the Life Insurance Plan. The difference between the total contribution and the normal contribution remains to be applied toward the liquidation of the unfunded actuarial accrued liability. This accrued liability payment is 4.88% of payroll for the Retiree Medical Plan and 0.00% of payroll for the Life Insurance Plan.



- 3. The unfunded actuarial accrued liability amounts to \$3,108,887,842 for the Retiree Medical Plan and (\$538,334) for the Life Insurance Plan as of the valuation date. An accrued liability contribution of 4.88% of payroll for the Retiree Medical Plan and 0.00% of payroll for the Life Insurance Plan is sufficient to amortize the unfunded actuarial accrued liabilities over a 30-year period, based on the assumption that the payroll will increase by 4.00% annually.

Section VII - COMMENTS ON LEVEL OF FUNDING

- 1. The System's monthly contribution for retirees who opt into the Retiree Medical Plan is based upon date of hire, date of attaining age 65, and years of service at retirement. Additionally, beneficiary contributions may vary by date of hire, date of attaining age 65, years of service at retirement, plan election, Medicare eligibility, and tobacco use. Beneficiary contributions for dependents are targeted to be 100% of the cost of expected claims for spouses age 65 and older. Historically, this target has been achieved. 100% of the full cost for non-Medicare eligible dependents is paid through a combination of payments from beneficiaries and the State. Current employer and State contributions have been determined to be insufficient to fund the cost of the benefits to be provided. Benefits for university, school district (non-Federal), and other members are identical, although active employee contributions collected from university, school district (non-Federal), and other members differ. A listing of active member Retiree Medical Plan contributions by fiscal year, date of membership, and employer type is provided in Schedule E.
- 2. The valuation indicates an increase in scheduled contributions is required to fund the Retiree Medical Plan in an actuarially sound manner and to ensure the future solvency of the Medical Insurance Fund. For University employees a member contribution of 1.75% of payroll together with employer and State contributions of 5.05% of payroll are required to meet the cost of benefits currently accruing and provide for the amortization of the unfunded actuarial accrued liability over a period of 30 years. For the remaining membership, a member contribution of 2.25% of payroll together with employer and State contributions of 4.55% of payroll is required to meet the cost of benefits currently accruing and provide for the amortization of the unfunded actuarial accrued liability over a period of 30 years.

Section VIII - ACCOUNTING INFORMATION

- 1. Governmental Accounting Standards Board Statements 43 and 45 set forth certain items of required supplementary information to be disclosed in the financial statements of the Retiree Medical and Life Insurance Plans and the employer.

Number of Active and Retired Members in Medical Plan as of June 30, 2013	
GROUP	NUMBER
Retirees currently receiving health benefits	36,777
Spouses of retirees currently receiving health benefits	7,053
Terminated employees entitled to benefits but not yet receiving benefits	4,910
	<u>74,831</u>
Active plan members	
<b>Total</b>	<u><u>123,571</u></u>

Number of Active and Retired Members in Life Insurance Plan as of June 30, 2013	
GROUP	NUMBER
Retirees	43,845
Terminated employees	3,839
Active plan members	<u>74,831</u>
<b>Total</b>	<u><u>122,515</u></u>





**Schedule of Funding Progress<sup>1</sup>  
Medical Insurance Fund  
(Dollar amount in thousands)**

ACTUARIAL VALUATION DATE	ACTUARIAL VALUE OF ASSETS	ACTUARIAL ACCRUED LIABILITIES (AAL)	UNFUNDED AAL (UAAL)	FUNDED RATIO	COVERED PAYROLL	UAAL AS A % OF COVERED PAYROLL
	A	B	(B-A)	(A/B)	C	[(B-A)/C]
6/30/2008	\$ 185,883	\$ 6,434,522	\$ 6,248,639	2.9%	\$ 3,190,332	195.9%
6/30/2009 <sup>2</sup>	229,103	6,454,733	6,225,630	3.5	3,253,077	191.4
6/30/2010 <sup>3</sup>	241,224	3,206,806	2,965,582	7.5	3,321,614	89.3
6/30/2011 <sup>4</sup>	294,819	3,423,149	3,128,330	8.6	3,451,756	90.6
6/30/2012	338,746	3,594,540	3,255,794	9.4	3,479,567	93.6
6/30/2013	412,185	3,521,073	3,108,888	11.7	3,480,066	89.3

<sup>1</sup> Reflects change in discount rate to 4.5% and updating medical trend.  
<sup>2</sup> Reflects change in participation assumptions and plan design.  
<sup>3</sup> Reflects change in discount rate to 8.0%, change in plan design and updating medical trend.  
<sup>4</sup> Reflects change in decrement assumptions and updating medical trend.

**Schedule of Funding Progress<sup>1</sup>  
Life Insurance Fund  
(Dollar amount in thousands)**

ACTUARIAL VALUATION DATE	ACTUARIAL VALUE OF ASSETS	ACTUARIAL ACCRUED LIABILITIES (AAL)	UNFUNDED AAL (UAAL)	FUNDED RATIO	COVERED PAYROLL	UAAL AS A % OF COVERED PAYROLL
	A	B	(B-A)	(A/B)	C	[(B-A)/C]
6/30/2008	\$ 77,658	\$ 84,265	\$ 6,607	92.2%	\$ 3,190,332	0.21%
6/30/2009	84,703	90,334	5,631	93.8	3,253,077	0.17
6/30/2010	87,905	92,091	4,186	95.5	3,321,614	0.13
6/30/2011	88,527	88,088	(439)	100.5	3,451,756	(0.01)
6/30/2012	92,241	91,398	(843)	100.9	3,479,567	(0.02)
6/30/2013	94,863	94,325	(538)	100.6	3,480,066	(0.02)

<sup>1</sup> Actuarial cost Method of Projected Unit Credit prior to 6/30/2011 and Entry Age Normal 6/30/2011 and after.

2. The information presented in the required supplementary schedules was determined as part of the actuarial valuation at June 30, 2013. Additional information as of the latest actuarial valuation follows.

Valuation Date	Actuarial Cost Method	Amortization Method	Remaining Amortization Period	Asset Valuation Method	Actuarial Assumptions: Investment Rate of Return*	Actuarial Assumptions: Investment Rate of Return*
06/30/2013	Entry age	Level percent of pay, open	30 years	Market value of assets	8.00%-Retiree Medical Plan	7.50%-Retiree Life Insurance Plan
<b>Medical Trend Assumption</b>				<u>Pre-Medicare**</u>	<u>Medicare</u>	
Fiscal Year Ending 6/30/2014				8.50%	0.00%	
Fiscal Year Ending 6/30/2015				7.50%	6.00%	
Ultimate Trend Rate				5.00%	5.00%	
Year of Ultimate Trend Rate				2019	2018	

\* Includes price inflation at 3.50%.  
 \*\*Alternate trend rates were used for Medicare Part B premiums and are disclosed in Schedule D.



**Schedule of Employer Contributions  
Medical Insurance Fund**

FISCAL YEAR ENDING	ANNUAL REQUIRED CONTRIBUTION (ARC)	ACTUAL EMPLOYER CONTRIBUTION	RDS CONTRIBUTION	TOTAL CONTRIBUTION	PERCENTAGE OF ARC CONTRIBUTED
	(A)	(B)	(C)	(B) + (C)	[(B) + (C)]/(A)
6/30/2008	\$ 395,282,164	\$ 148,954,644	\$ 11,911,565	\$ 160,866,209	40.7%
6/30/2009	467,312,904	164,480,119	13,611,748	178,091,867	38.1
6/30/2010	457,054,117	158,765,496	14,614,285	173,379,781	37.9
6/30/2011	477,723,070	188,453,929	280,585	188,734,514	39.5
6/30/2012	470,217,067	177,450,206	297,639	177,747,845	37.8
6/30/2013	186,725,823	166,611,420	0	166,611,420	89.2

**Schedule of Employer Contributions  
Life Insurance Fund**

FISCAL YEAR ENDING	ANNUAL REQUIRED CONTRIBUTION (ARC)	ACTUAL EMPLOYER CONTRIBUTION	PERCENTAGE OF ARC CONTRIBUTED
	(A)	(B)	(B) / (A)
6/30/2008	\$ 1,914,199	\$ 5,411,249	282.7%
6/30/2009	1,498,076	5,455,473	364.2
6/30/2010	1,992,969	1,966,826	98.7
6/30/2011	1,725,878	1,668,822	96.7
6/30/2012	1,732,831	1,684,711	97.2
6/30/2013	1,739,908	1,680,495	96.6

3. Following is the calculation of the Annual OPEB Cost (AOC) and the Net OPEB Obligation (NOO) for the fiscal year ending June 30, 2013. As the Retiree Medical and Life Insurance Plans are cost-sharing multiple-employer plans, GASB Statement 45 does not require the participating employers to disclose this information

**Annual OPEB Cost and Net OPEB Obligation  
for the Medical Insurance Fund for Fiscal Year Ending June 30, 2013**

(a) Employer Annual Required Contribution	\$ 186,725,823
(b) Interest on Net OPEB Obligation	113,098,886
(c) Adjustment to Annual Required Contribution	<u>77,264,315</u>
(d) Annual OPEB Cost: (a) + (b) - (c)	222,560,394
(e) Employer Contributions for Fiscal Year 2013	<u>166,611,420</u>
(f) Increase in Net OPEB Obligation: (d) - (e)	55,948,974
(g) Net OPEB Obligation at beginning of Fiscal Year	<u>1,413,736,073</u>
(h) Net OPEB Obligation at end of Fiscal Year: (f) + (g)	<u><u>\$ 1,469,685,047</u></u>



**Trend Information for the Medical Insurance Fund**

Fiscal Year Ending	Annual OPEB Cost (AOC)	Percentage of AOC Contributed	Net OPEB Obligation (NOO)
6/30/2008	\$ 395,282,164	40.7%	\$ 234,415,955
6/30/2009	469,492,218	37.9	525,816,306
6/30/2010	461,942,516	37.5	814,379,040
6/30/2011	485,294,173	38.9	1,110,938,699
6/30/2012	480,545,219	37.0	1,413,736,073
6/30/2013	222,560,394	74.9	1,469,685,047

**Annual OPEB Cost and Net OPEB Obligation for the Life Insurance Fund for Fiscal Year Ending June 30, 2013**

(a) Employer Annual Required Contribution	\$ 1,739,908
(b) Interest on Net OPEB Obligation	(595,552)
(c) Adjustment to Annual Required Contribution	(410,675)
(d) Annual OPEB Cost: (a) + (b) - (c)	<u>1,555,031</u>
(e) Employer contributions for Fiscal Year 2013	1,680,495
(f) Increase in Net OPEB Obligation: (d) - (e)	(125,464)
(g) Net OPEB Obligation at beginning of Fiscal Year	(7,940,695)
(h) Net OPEB Obligation at end of Fiscal Year: (f) + (g)	<u><u>\$ (8,066,159)</u></u>

**Trend Information for the Life Insurance Fund**

Fiscal Year Ending	Annual OPEB Cost (AOC)	Percentage of AOC Contributed	Net OPEB Obligation (NOO)
6/30/2008	\$ 1,914,199	282.7%	\$ (3,497,050)
6/30/2009	1,416,656	385.1	(7,535,867)
6/30/2010	1,817,516	108.2	(7,685,177)
6/30/2011	1,546,950	107.9	(7,807,049)
6/30/2012	1,551,065	108.6	(7,940,695)
6/30/2013	1,555,031	108.1	(8,066,159)



**SCHEDULE A**

<b>RESULTS OF THE VALUATION AS OF JUNE 30, 2013</b> (Dollar amounts in thousands)		
	Medical Insurance Fund	Life Insurance Fund
<b>PAYROLL</b>	\$ 3,480,066	\$ 3,480,066
<b>ACTUARIAL ACCRUED LIABILITY</b>		
Present value of prospective benefits payable in respect of:		
(a) Present active members	\$ 1,519,279	\$ 16,195
(b) Present terminated vested members	27,379	1,819
(c) Present retired members and covered spouses	<u>1,974,415</u>	<u>76,311</u>
(d) Total actuarial accrued liability	\$ 3,521,073	\$ 94,325
<b>PRESENT ASSETS FOR VALUATION PURPOSES</b>	\$ 412,185	\$ 94,863
<b>UNFUNDED ACTUARIAL ACCRUED LIABILITY</b>	<u>\$ 3,108,888</u>	<u>\$ (538)</u>
<b>CONTRIBUTIONS</b>	<b>FY Ending June 30, 2014</b>	<b>FY Ending June 30, 2016</b>
Normal	1.92%	0.03%
Accrued Liability	<u>4.88</u>	<u>0.00</u>
Total	6.80%	0.03%
Member	2.22%	0.00%
Employer (ARC)	1.50	0.00
State (ARC)	<u>3.08</u>	<u>0.03</u>
Total	6.80%	0.03%

<b>MEDICAL INSURANCE FUND</b> <b>Solvency Test</b> (Dollar amounts in millions)							
Valuation Date	(1) Active Member Contributions	(2) Retirants And Beneficiaries	(3) Active Members (Employer Financed Portion)	Valuation Assets	Portion of Accrued Liabilities Covered by Assets		
					(1)	(2)	(3)
6/30/2008	n/a	\$ 3,084.4	\$ 3,350.2	\$ 185.9	n/a	6%	0%
6/30/2009	n/a	3,203.7	3,251.0	229.1	n/a	7	0
6/30/2010	n/a	1,948.6	1,258.2	241.2	n/a	12	0
6/30/2011	n/a	1,910.1	1,513.1	294.8	n/a	15	0
6/30/2012	n/a	2,046.7	1,547.9	338.7	n/a	17	0
6/30/2013	n/a	2,001.8	1,519.3	412.2	n/a	21	0



Schedule A continued ...

LIFE INSURANCE FUND Solvency Test (Dollar amounts in millions)							
Valuation Date	(1)	(2)	(3)	Valuation Assets	Portion of Accrued Liabilities Covered by Assets		
	Active Member Contributions	Retirants And Beneficiaries	Active Members (Employer Financed Portion)		(1)	(2)	(3)
6/30/2008	n/a	\$ 66.9	\$ 17.4	\$ 77.7	n/a	100%	62%
6/30/2009	n/a	72.0	18.4	84.7	n/a	100	69
6/30/2010	n/a	74.4	17.7	87.9	n/a	100	76
6/30/2011	n/a	72.2	15.9	88.5	n/a	100	103
6/30/2012	n/a	75.2	16.2	92.2	n/a	100	105
6/30/2013	n/a	78.1	16.2	94.9	n/a	100	104

**SCHEDULE B**

DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS MEDICAL INSURANCE FUND AS OF JUNE 30, 2013		
(1)	Actuarial Value of Assets Beginning of Year	\$ 338,746,553
(2)	Market Value of Assets End of Year	\$ 413,665,765
(3)	Market Value of Assets Beginning of Year	\$ 338,746,553
(4)	Cash Flow	
a.	Contributions	\$ 286,372,224
b.	Benefit Payments	240,896,642
c.	Administrative Expense	1,275,206
d.	Net: (4)a - (4)b - (4)c	\$ 44,200,376
(5)	Investment Income	
a.	Market total: (2) - (3) - (4)d	\$ 30,718,836
b.	Assumed Rate	8.00%
c.	Amount for Immediate Recognition: [ (3) x (5)b ] + [ (4)d x (5)b x 0.5 ]	28,867,739
d.	Amount for Phased-In Recognition: (5)a - (5)c	\$ 1,851,097
(6)	Phased-In Recognition of Investment Income	
a.	Current Year: 0.20 x (5)d	\$ 370,219
b.	First Prior Year	0
c.	Second Prior Year	0
d.	Third Prior Year	0
e.	Fourth Prior Year	0
f.	Total Recognized Investment Gain	\$ 370,219
(7)	Actuarial Value of Assets End of Year: (1) + (4)d + (5)c + (6)f	\$ 412,184,887
(8)	Difference Between Market & Actuarial Values: (2) - (7)	\$ 1,480,878
(9)	Rate of Return on Actuarial Value:	8.10%



Schedule B continued ...

**DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS  
LIFE INSURANCE FUND  
AS OF JUNE 30, 2013**

(1)	Actuarial Value of Assets Beginning of Year	\$ 92,241,246
(2)	Market Value of Assets End of Year	\$ 89,957,358
(3)	Market Value of Assets Beginning of Year	\$ 92,241,246
(4)	Cash Flow	
	a. Contributions	\$ 1,680,495
	b. Benefit Payments	4,614,718
	c. Administrative Expense	<u>24,425</u>
	d. Net: (4)a - (4)b - (4)c	\$ (2,958,648)
(5)	Investment Income	
	a. Market total: (2) - (3) - (4)d	\$ 674,760
	b. Assumed Rate	7.50%
	c. Amount for Immediate Recognition: [ (3) x (5)b ] + [ (4)d x (5)b x 0.5 ]	<u>6,807,144</u>
	d. Amount for Phased-In Recognition: (5)a - (5)c	\$ (6,132,384)
(6)	Phased-In Recognition of Investment Income	
	a. Current Year: 0.20 x (5)d	\$ (1,226,477)
	b. First Prior Year	0
	c. Second Prior Year	0
	d. Third Prior Year	0
	e. Fourth Prior Year	<u>0</u>
	f. Total Recognized Investment Gain	\$ (1,226,477)
(7)	Actuarial Value of Assets End of Year: (1) + (4)d + (5)c + (6)f	\$ 94,863,265
(8)	Difference Between Market & Actuarial Values: (2) - (7)	\$ (4,905,907)
(9)	Rate of Return on Actuarial Value:	6.15%



**SCHEDULE C**

**MEDICAL INSURANCE FUND  
Summary of Receipts & Disbursements  
(Market Value)**

<b><u>RECEIPTS FOR THE YEAR</u></b>	<i>For the Year Ending</i>	
	<u>June 30, 2013</u>	<u>June 30, 2012</u>
Contributions		
Members Statutory	\$ 58,440,844	\$ 44,243,026
Payment by Retired Members	<u>61,354,936</u>	<u>56,103,044</u>
Total Members	119,795,780	100,346,070
Employer/State Statutory Contributions	60,076,444	39,166,623
State Statutory - Transition Fund/KEHP	106,500,000	122,500,000
General Fund Surplus	0	0
Allotment from Pension Fund	<u>0</u>	<u>12,300,000</u>
TOTAL EMPLOYER	166,576,444	173,966,623
GRANDTOTAL	286,372,224	274,312,693
Recovery Income	34,976	3,483,583
Medicare D Receipts	0	297,639
Net Investment Income	<u>30,718,836</u>	<u>(3,989,202)</u>
TOTAL	317,126,036	274,104,713
<b><u>DISBURSEMENTS FOR THE YEAR</u></b>		
Refunds to Members	0	0
Administrative Expense	1,275,206	1,201,629
Medical Insurance Expense	<u>240,931,618</u>	<u>228,975,126</u>
TOTAL	242,206,824	230,176,755
<b>Excess of Receipts over Disbursements</b>	74,919,212	43,927,958
<b><u>RECONCILIATION OF ASSET BALANCES</u></b>		
Asset Balance as of the Beginning of the Year	338,746,553	294,818,595
Excess of Receipts over Disbursements	<u>74,919,212</u>	<u>43,927,958</u>
Asset Balance as of the End of the Year	<u>\$ 413,665,765</u>	<u>\$ 338,746,553</u>



Schedule C continued ...

<b>LIFE INSURANCE FUND</b>		
<b>Summary of Receipts &amp; Disbursements</b>		
<b>(Market Value)</b>		
	<b>For the Year Ending</b>	
	<b>June 30, 2013</b>	<b>June 30, 2012</b>
<b><u>RECEIPTS FOR THE YEAR</u></b>		
Contributions		
Members	\$ 0	\$ 0
State	<u>1,680,495</u>	<u>1,684,711</u>
TOTAL	1,680,495	1,684,711
Net Investment Income	<u>674,760</u>	<u>6,450,022</u>
TOTAL	2,355,255	8,134,733
<b><u>DISBURSEMENTS FOR THE YEAR</u></b>		
Benefit Payments	4,614,718	4,397,281
Refunds to Members	0	0
Medical Insurance Payments	0	0
Miscellaneous, including expenses	<u>24,425</u>	<u>22,886</u>
TOTAL	4,639,143	4,420,167
<b><u>EXCESS OF RECEIPTS OVER DISBURSEMENTS</u></b>	(2,283,888)	3,714,566
<b><u>RECONCILIATION OF ASSET BALANCES</u></b>		
Asset Balance as of the Beginning of the Year	92,241,246	88,526,680
Excess of Receipts over Disbursements	<u>( 2,283,888)</u>	<u>3,714,566</u>
Asset Balance as of the End of the Year	<u>\$ 89,957,358</u>	<u>\$ 92,241,246</u>

**SCHEDULE D**  
**Statement of Actuarial Assumptions and Methods**

The rates of retirement, disability, mortality, termination, and salary increases used in the valuation were selected based on the actuarial experience study prepared as of June 30, 2010, submitted to and adopted by the Board on September 19, 2011. The rates of future participation, health care cost trend rates, and expected plan costs were determined by the actuary based on plan experience.

Valuation Date: June 30, 2013

Discount Rate: 8.0% per annum, compounded annually for Medical Insurance Fund.  
7.5% per annum, compounded annually for Life Insurance Fund.

**Health Care Cost Trend Rates:** Following is a chart detailing trend assumptions.





Schedule D continued ...

Annual Trend Rate			
Fiscal Year Ended	Medicare Part B	Under Age 65	Age 65 and Over
2014	2.76%	8.50%	0.00%
2015	4.87	7.50	6.00
2016	4.51	6.50	5.75
2017	5.08	6.00	5.25
2018	5.44	5.50	5.00
2019	5.50	5.00	5.00
2020	5.65	5.00	5.00
2021	5.64	5.00	5.00
2022	5.24	5.00	5.00
2023 and beyond	5.00	5.00	5.00

**Age Related Morbidity:** For retirees ages 65 and older, per capita health care costs are adjusted to reflect expected health care cost changes related to age. The increase to the net incurred health care claims is assumed to be:

Participant Age	Annual Increases
65 – 69	3.0%
70 – 74	2.5
75 – 79	2.0
80 – 84	1.0
85 - 89	0.5
90 and over	0.0

For the retiree health care liabilities of those under age 65, the current premium charged by the Kentucky Employees' Health Plan (KEHP) is used as the base cost and is projected forward using the healthcare trend assumption. No implicit rate subsidy is calculated or recognized as the implicit rate subsidy is deemed the responsibility of the KEHP.

**Retiree Medical Plan Costs:** Assumed per capita health care costs were based on past experience and trended based on the assumptions. Following are charts detailing retiree per capita assumptions. These amounts include medical, drug, and administrative costs and represent the amount that KTRS pays as the full contribution amount. The amounts include medical and drug costs. An additional \$5.70 per month is paid to the Department of Employee Insurance (DEI) and is not included in the under age 65 costs listed below. For retirees ages 65 and older, the average costs shown are normalized to age 65 and then age adjusted in calculating liabilities.

Under Age 65 (KEHP) Full Costs as of January 1, 2014				
Fiscal Year	LivingWell CDHP	LivingWell PPO	Standard PPO	Standard CDHP
Single	\$ 733.88	\$ 699.28	\$ 656.28	\$ 641.50
Parent Plus	1,045.20	995.94	934.70	913.66
Couple	1,603.94	1,528.34	1,434.36	1,402.06
Family	1,785.16	1,701.04	1,596.42	1,560.48
Family C-R	882.94	841.34	789.60	771.82



Schedule D continued ...

**Average Monthly KTRS Full Costs & Contributions**

Calendar Year	Under Age 65 (KEHP) Contributions	Age 65 & Over (MEHP) Full Costs	Age 65 & Over (MEHP) Contributions
2004	\$ 293	\$ 274	\$ 274
2005	412	288	288
2006	461	315	315
2007	458	283	283
2008	484	278	278
2009	545	301 <sup>1</sup>	285
2010	594	373 <sup>1</sup>	342
2011	626	289	289
2012	622	270 <sup>2</sup>	270
2013	635	294 <sup>2</sup>	290
2014	679	290 <sup>2</sup>	290

<sup>1</sup> Under GASB 43 and 45, cost reductions for the amount of the Medicare Part D Retiree Drug Subsidy cannot be taken into account in the gross cost calculations.

<sup>2</sup> 2,052 current benefit recipients are not eligible for premium-free Medicare Part A benefits. For these individuals, the full cost of coverage is, on average, \$649 per month. It is assumed 19% of current benefit recipients under the age of 65 who were hired prior to 4/1/1986 and left covered employment prior to 4/1/1996 will not be eligible for premium-free Medicare Part A benefits. All active members are assumed to have begun contributing to Medicare as of 4/1/1986 and are assumed eligible for premium-free Medicare Part A benefits.

**Current Retiree Medical Plan Participation:** Actual census data and current plan elections (including waivers) provided by the System were used for those retirees currently participating in the Retiree Medical Plan. Current participants are assumed to maintain their current Retiree Medical Plan coverage until they are no longer eligible.

**Anticipated Retiree Medical Plan Participation:** The assumed annual rates of health care plan participation for future retirees are as follows:

**Member Participation\***

Years of Service	Entered KTRS Before 7/1/2002	Entered KTRS After 6/30/2002	Entered KTRS After 6/30/2008
5-9.99	23%	9%	Not Eligible
10-14.99	45	23	Not Eligible
15-19.99	68	41	41%
20-24.99	93	59	59
25-25.99	93	81	81
26-26.99	93	86	86
27 or more	93	93	93

*\* Members retiring from deferred vested status are assumed to participate at 50% of the corresponding rate listed.*

**Anticipated Retiree Medical Plan Elections:** The assumed rates of plan election for future retirees participating in the KEHP plans are provided in the following table. As the assumed plan election rates are estimates and actual results may be materially different, this assumption will need to be revised as experience evolves.

LivingWell CDHP	LivingWell PPO	Standard PPO	Standard CDHP
35%	55%	10%	0%



*Schedule D continued ...*

**Spouse Coverage in Medical Plans:** Actual census data and current plan elections were used for spouses (including beneficiaries) of current retirees. For spouses of future retirees, 20% of future retirees are assumed to cover their spouse, with females 3 years younger than males.

**Disabled Dependent Children:** The liability associated with disabled dependent children was determined to be de minimis and was therefore excluded from this valuation.

**Reciprocity Service:** In 2014, the Kentucky Retirement Systems' (KRS) Medicare eligible premium is expected to be less than the MEHP premium. KRS will only allow a bill for a portion of the lower KRS premium, creating a discrepancy in premiums for 2014. As such, reciprocity retirees with less than 20 years of KTRS service (or less than 27 KTRS years for retirees who entered KTRS after 2002) will be responsible for the balance of the premium in addition to any other portion of the premium for which he/she is responsible. As the discrepancy is assumed to occur over a short period and impact a small number of participants, the impact to the Retiree Medical Plan's liability is assumed to be de minimis.

**Withdrawal Assumption:** It is assumed 30% of future vested members who terminate elect to withdraw their contributions while the remaining 70% elect to leave their contributions in the plan in order to be eligible for a benefit at their retirement date.

**Payroll Growth:** 4.00% per annum, compounded annually.

**Price Inflation:** 3.50% per annum, compounded annually.

**Affordable Care Act (ACA):** The impact of the Affordable Care Act (ACA) was addressed in this valuation. Review of the information currently available did not identify any specific provisions of the ACA that are anticipated to significantly impact results. While the impact of certain provisions such as the excise tax on high-value health insurance plans beginning in 2018 (if applicable), mandated benefits and participation changes due to the individual mandate should be recognized in the determination of liabilities, overall future plan costs and the resulting liabilities are driven by the assumed rate of health care inflation (i.e., trend). The trend assumption forecasts the anticipated increase to initial per capita costs, taking into account health care cost inflation, increases in benefit utilization, government-mandated benefits, and technological advances. Given the uncertainty regarding the ACA's implementation (e.g., the impact of excise tax on high-value health insurance plans, changes in participation resulting from the implementation of state-based health insurance exchanges), continued monitoring of the ACA's impact on the Retiree Medical Plan's liability will be required.

**Asset Valuation Method :** Five-year market related actuarial value, as developed in Schedule B. The actuarial value of assets recognizes a portion of the difference between the market value of assets and the expected actuarial value of assets, based on the ultimate assumed valuation rate of return. The amount recognized each year is 20% of the difference between market value and expected actuarial value. The ultimate assumed valuation rate of return is assumed to be 8.00% for the Medical Insurance Fund and 7.50% for the Life Insurance Fund.

**Actuarial Cost Method:** The valuation is prepared on the projected benefit basis, under which the present value, at the interest rate assumed to be earned in the future, of each active member's expected benefit at retirement or death is determined, based on his/her age, service, and gender. The calculations take into account the probability of a member's death or termination of employment prior to becoming eligible for a benefit, as well as the possibility of his/her terminating with a service, disability or survivor's benefit. The present value of the expected benefits payable on account of the active members is added to the present value of the expected future payments to retired members and beneficiaries and deferred vested members to obtain the present value of all expected benefits payable from the System on account of the present group of members and beneficiaries.

The employer contributions required to support the benefits of the System are determined following a level funding approach, and consist of a normal contribution and an accrued liability contribution.



*Schedule D continued ...*

The normal contribution is determined using the "entry age normal" method. Under this method, a calculation is made to determine the uniform and constant percentage rate of employer contribution which, if applied to the compensation of the average new member during the entire period of his/her anticipated covered service, would be required in addition to the contributions of the member to meet the cost of all benefits payable on his/her behalf.

The unfunded accrued liability is determined by subtracting the present value of prospective employer normal contributions and member contributions, together with the current actuarial value of assets held, from the present value of expected benefits to be paid from the System.

**Separation From Service:** Representative values of the assumed annual rates of salary increases, death, disability, withdrawal, service retirement and early retirement are as follows:

MALES: Annual Rate of . . .								
AGE	SALARY*	DEATH	DISABILITY	WITHDRAWAL			RETIREMENT	
				SERVICE			Before 27 Years of Service	After 27 Years of Service**
				0 - 4	5 - 9	10+		
20	8.10%	0.012%	0.01%	9.00%				
25	7.20	0.015	0.01	9.00	3.00%			
30	6.20	0.020	0.02	9.00	3.00	3.00%		
35	5.50	0.035	0.05	10.00	3.25	1.75		
40	5.00	0.046	0.09	10.00	4.00	1.40		
45	4.60	0.058	0.18	11.00	4.00	1.50		17.0%
50	4.50	0.074	0.33	9.00	4.00	2.00		17.0
55	4.30	0.124	0.55	12.00	3.50	2.50	5.5%	35.0
60	4.20	0.244	0.70	12.00	3.50	2.50	13.0	24.0
62	4.10	0.324	0.70	12.00	3.50	2.50	15.0	25.0
65	4.00	0.480	0.70	12.00	3.50	2.50	21.0	26.0
70	4.00	0.821	0.70	0.00	0.00	0.00	100.0	100.0

\* Includes inflation at 3.5% per annum  
 \*\* Plus 10% in year when first eligible for unreduced retirement with 27 years of service.



Schedule D continued ...

FEMALES: Annual Rate of . . .								
AGE	SALARY*	DEATH	DISABILITY	WITHDRAWAL			RETIREMENT	
				SERVICE			Before 27 Years of Service	After 27 Years of Service**
				0 - 4	5 - 9	10+		
20	8.10%	0.007%	0.01%	7.00%				
25	7.20	0.008	0.02	8.50	4.00%			
30	6.20	0.010	0.04	9.00	4.00	1.65%		
35	5.50	0.017	0.08	9.00	3.75	1.85		
40	5.00	0.024	0.14	8.50	3.25	1.50		
45	4.60	0.037	0.32	7.50	3.25	1.25		15.0%
50	4.50	0.055	0.42	9.50	3.50	1.75		15.0
55	4.30	0.103	0.56	11.00	4.00	2.00	6.0%	35.0
60	4.20	0.201	0.85	11.00	4.00	2.00	14.0	30.0
62	4.10	0.263	0.85	11.00	4.00	2.00	12.5	25.0
65	4.00	0.390	0.85	11.00	4.00	2.00	22.0	30.0
70	4.00	0.672	0.85	0.00	0.00	0.00	100.0	100.0

\* Includes inflation at 3.5% per annum  
 \*\* Plus 10% in year when first eligible for unreduced retirement with 27 years of service.

**Deaths After Retirement:** The RP-2000 Combined Mortality Table projected to 2020 using scale AA (set back one year for females) is used for death after service retirement and beneficiaries. The RP-2000 Disabled Mortality Table (set back seven years for males and set forward five years for females) is used for death after disability retirement. Mortality improvement is anticipated under these assumptions as recent mortality experience shows actual deaths are approximately 4% greater for healthy lives and 5% greater for disabled lives than expected under the selected tables. Representative values of the assumed annual rates of death after service retirement and after disability retirement are shown below:

Annual Rate of Death After . . .				
Age	Service Retirement		Disability Retirement	
	MALE	FEMALE	MALE	FEMALE
45	0.1161%	0.0745%	2.2571%	1.1535%
50	0.1487	0.1100	2.2571	1.6544
55	0.2469	0.2064	2.6404	2.1839
60	0.4887	0.4017	3.2859	2.8026
65	0.9607	0.7797	3.9334	3.7635
70	1.6413	1.3443	4.6584	5.2230
75	2.8538	2.1680	5.6909	7.2312
80	5.2647	3.6066	7.3292	10.0203
85	9.6240	6.1634	9.7640	14.0049
90	16.9280	11.2205	12.8343	19.4509
95	25.6992	17.5624	16.2186	23.7467



**SCHEDULE E**  
**Summary of Main Plan Provisions as**  
**Interpreted for Valuation Purposes**

**ELIGIBILITY FOR ACCESS TO RETIREE MEDICAL COVERAGE:**

**Service Retirement:** For employees hired prior to July 1, 2008, Retiree Medical Plan coverage eligibility is attained when an employee retires, which is possible after the completion of 27 years of service or attainment of age 55 and 5 years of service. For employees hired on or after July 1, 2008, employees may retire after the completion of 27 years of service, the attainment of age 55 and 10 years of service, or the attainment of age 60 and 5 years of service, but must complete a minimum of 15 years of service to be eligible for Retiree Medical Plan coverage.

**Disability Retirement:** Disabled employees hired prior to July 1, 2008 with at least 5 years of service, who are totally and permanently incapable of being employed as a teacher, are eligible for Retiree Medical Plan coverage. Disabled employees hired after July 1, 2008 must have 15 years of service to be eligible for Retiree Medical Plan coverage.

**Survivors:** Spouses of employees who die in service while eligible to retire, as well as survivors of service and disabled retirees, are eligible for Retiree Medical Plan coverage.

**Termination:** For employees hired prior to July 1, 2008 and who terminated with at least 5 years of service, Retiree Medical Plan coverage eligibility is attained at age 60. For employees hired on or after July 1, 2008 and who terminated with at least 15 years of service, Retiree Medical Plan coverage eligibility is attained at age 60.

**COVERED MEMBER MEDICAL PLAN CONTRIBUTIONS:**

**Under Age 65 Retiree Shared Responsibility Contribution:** Effective July 1, 2010, retirees under the age of 65 began a three-year phase-in of the Shared Responsibility Contribution. This contribution reduces the applicable amount of the full contribution provided by the System to retirees, by adjusting the Shared Responsibility Contribution amount by 100% less the appropriate percentage from the Retiree Percentage Contribution table on the following page. Effective July 1, 2012, the full Shared Responsibility Contribution equals the Standard Medicare Part B premium paid by retirees ages 65 and older.

<b>Under Age 65 Shared Responsibility Contribution Timeline</b>			
<b>Effective Date</b>	<b>Medicare Part B Monthly Cost</b>	<b>Formula</b>	<b>Shared Responsibility Contribution</b>
July 1, 2010	\$ 110.50	$(1/3 \times \$110.50)$	\$ 37.00
January 1, 2011	115.40	$(1/3 \times 115.40)$	39.00
July 1, 2011	115.40	$(2/3 \times 115.40)$	77.00
January 1, 2012	99.90	$(2/3 \times 99.90)$	66.00
July 1, 2012	99.90	99.90	99.90
January 1, 2013	104.90	104.90	104.90
January 1, 2014	104.90	104.90	104.90



Schedule E continued ...

**Retiree Years of Service Percentage Contribution:** Retirees contribute the following percentages based on years of service at retirement, which are then applied to the Retiree Contribution Rate Basis:

Years of Service	Hired before 7/1/2002 (age 65 on 12/31/2004 or earlier)	Hired before 7/1/2002 (age 65 on 1/1/2005 or earlier)	Hired after 6/30/2002 and before 7/1/2008	Hired after 7/1/2008 or later
5 - 9.99	30%	75%	90%	Not Eligible
10 - 14.99	20	50	75	Not Eligible
15 - 19.99	10	25	55	55%
20 - 24.99	0	0	35	35
25 - 25.99	0	0	10	10
26 - 26.99	0	0	5	5
27 or more	0	0	0	0

Tier Elected	LivingWell CDHP	LivingWell PPO	Standard PPO	Standard CDHP	Ages 65 and Older (MEHP)
Single	\$ 685.90	\$ 619.30	\$ 608.30	\$ 628.52	\$ 290.00
Parent Plus	685.90	685.90	685.90	685.90	290.00
Couple	685.90	685.90	685.90	685.90	290.00
Family	685.90	685.90	685.90	685.90	290.00
Family C-R	685.90	685.90	685.90	685.90	290.00

**Under Age 65 Retiree Plan Cost Contribution:** A contribution according to the table below is required to be paid by retirees under the age of 65 based upon the plan elected:

Tier Elected	LivingWell CDHP	LivingWell PPO	Standard PPO	Standard CDHP
Single	\$ 47.98	\$ 79.98	\$ 47.98	\$ 12.98
Parent Plus**	359.30	310.04	248.40	227.76
Couple**	918.04	842.44	748.46	716.16
Family**	1,099.26	1,015.14	910.52	874.58
Family C-R**	197.04	155.44	103.70	85.92

\* Does not include the additional contribution required to be paid by retirees under the age of 65 who smoke (\$40 for Single or Family Cross-Reference, and \$80 for Parent Plus, Couple or Family).  
\*\* Contribution for Parent Plus, Couple, Family and Family Cross-Reference tiers is offset by the State Under Age 65 Spouse/Dependent Subsidy.



Schedule E continued ...

The Under Age 65 Plan Cost Contribution is reduced by subtracting the State Under Age 65 Spouse/Dependent Subsidy multiplied by 100% less the appropriate percentage in the Retiree Percentage Contribution table on the previous page, from the Under Age 65 Plan Cost Contribution.

Tier Elected	LivingWell CDHP	LivingWell PPO	Standard PPO	Standard CDHP
Parent Plus**	\$ 236.32	\$ 82.06	\$125.82	\$154.78
Couple**	630.06	329.46	460.48	453.18
Family**	761.28	372.16	572.54	561.60
Family C-R**	119.06	2.46	25.72	52.94

**Spouse Contributions:** 100% of the full cost for non-Medicare eligible dependents is paid through a combination of payments from beneficiaries and the State. Spouses of post-65 retirees, as well as surviving spouses of deceased retirees on or after July 1, 2002, pay 100% of the full contribution. Spouses of active members who died while eligible to retire prior to July 1, 2002, are provided the same subsidy by KTRS that would have been provided to the retiree for the lifetime of the spouse, or until remarriage. Spouses of active members who die while eligible to retire July 1, 2002, and later, pay 100% of the full contribution.

Tier Elected	LivingWell CDHP	LivingWell PPO	Standard PPO	Standard CDHP	Age 65 & Over (MEHP)
Single	\$ 739.58	\$ 704.98	\$ 661.98	\$ 647.20	\$ 290.00
Parent Plus	1,050.90	1,001.64	940.40	919.36	n/a

**System Retiree Medical Plan Contributions:** The System Contribution Rate Basis is determined annually by KTRS; and the full cost is projected based on historical claims data. For retirees, the following percentages are based on years of service at retirement and are then applied to the System Contribution Rate Basis:

Years of Service	Age 65 & Over and Covered Before 1/1/2005	Age 65 & Over and Covered Before 12/31/2004	Entered KTRS After 6/30/2002 and Before 7/1/2008	Entered KTRS After 6/30/2008
5 - 9.99	70%	25%	10%	Not Eligible
10 - 14.99	80	50	25	Not Eligible
15 - 19.99	90	75	45	45%
20 - 24.99	100	100	65	65
25 - 25.99	100	100	90	90
26 - 26.99	100	100	95	95
27 or more	100	100	100	100





Schedule E continued ...

System Contribution Rate Basis Effective January 1, 2014 Under Age 65 (KEHP)					
Tier Elected	LivingWell CDHP	LivingWell PPO	Standard PPO	Standard CDHP	Ages 65 and Older (MEHP)
Single	\$ 685.90	\$ 619.30	\$ 608.30	\$ 628.52	\$ 290.00
Parent Plus	685.90	685.90	685.90	685.90	290.00
Couple	685.90	685.90	685.90	685.90	290.00
Family	685.90	685.90	685.90	685.90	290.00
Family C-R	685.90	685.90	685.90	685.90	290.00

**Active Member Retiree Medical Plan Contributions:** Actively employed members make payroll contributions to the Medical Insurance Fund based upon the following schedule:

Active Member Percentage of Payroll Contribution Made to Medical Insurance Fund						
Fiscal Year Ending	UNIVERSITY EMPLOYEES		SCHOOL DISTRICT EMPLOYEES (Non-Federal)		OTHER EMPLOYEES	
	Hired Before 7/1/2008	Hired on or After 7/1/2008	Hired Before 7/1/2008	Hired on or After 7/1/2008	Hired Before 7/1/2008	Hired on or After 7/1/2008
2014	1.750%	1.750%	2.250%	2.250%	2.250%	2.250%
2015	2.270	2.270	3.000	3.000	3.000	3.000
2016 & Later	2.775	2.775	3.750	3.750	3.750	3.750

**Life Insurance Plan Benefits:**

(1) Effective July 1, 2000, the Teachers' Retirement System shall:

- (a) Provide a life insurance benefit in a minimum amount of five thousand dollars (\$5,000) for its members who are retired for service or disability. This life insurance benefit shall be payable upon the death of a member retired for service or disability to the member's estate or to a party designated by the member on a form prescribed by the retirement system; and
- (b) Provide a life insurance benefit in a minimum amount of two thousand dollars (\$2,000) for its active contributing members. This life insurance benefit shall be payable upon the death of an active contributing member to the member's estate or to a party designated by the member on a form prescribed by the retirement system.

Note: Members employed on a substitute or part-time basis and working at least 69% of a full contract year in a single fiscal year will be eligible for a life insurance benefit for the balance of the fiscal year or the immediately succeeding fiscal year under certain conditions. For non-vested members employed on a substitute or part-time basis, the life insurance benefit is provided if death occurs as the result of a physical injury on the job. For vested members employed on a substitute or part-time basis, death does not have to be the result of a physical injury on the job for life insurance benefits to be provided.



**SCHEDULE F**  
**Table 1 – Service Table**  
**Distribution of Active Members as of June 30, 2013**  
**by Age and Service Groups**

Attained Age	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	>= 35	TOTAL
24 & under	2,217								2,217
Total Pay	38,794,764								38,794,764
Avg. Pay	17,499								17,499
25 to 29	6,792	1,343							8,135
Total Pay	215,924,099	64,179,614							280,103,713
Avg. Pay	31,791	47,788							34,432
30 to 34	3,657	5,211	1,031						9,899
Total Pay	111,425,382	260,737,984	57,355,777						429,519,143
Avg. Pay	30,469	50,036	55,631						43,390
35 to 39	2,552	2,504	4,182	662					9,900
Total Pay	71,285,307	125,543,255	246,666,064	42,971,906					486,466,532
Avg. Pay	27,933	50,137	58,983	64,912					49,138
40 to 44	3,067	1,800	2,474	3,563	680				11,584
Total Pay	67,191,849	92,622,129	145,446,626	230,950,606	45,969,397				582,180,607
Avg. Pay	21,908	51,457	58,790	64,819	67,602				50,257
45 to 49	1,735	1,298	1,417	1,746	2,491	602			9,289
Total Pay	41,056,264	67,430,234	83,499,390	112,838,960	169,887,231	42,236,173			516,948,252
Avg. Pay	23,664	51,949	58,927	64,627	68,200	70,160			55,652
50 to 54	1,458	912	1,144	1,178	1,310	1,710	294		8,006
Total Pay	31,190,824	47,134,890	67,514,047	77,392,738	90,545,146	122,933,736	22,391,365		459,102,746
Avg. Pay	21,393	51,683	59,016	65,698	69,118	71,891	76,161		57,345
55 to 59	1,949	613	902	1,024	1,065	853	357	75	6,838
Total Pay	30,418,848	30,325,677	54,329,445	67,848,589	74,246,893	64,804,957	29,589,505	6,415,761	357,979,675
Avg. Pay	15,607	49,471	60,232	66,258	69,715	75,973	82,884	85,543	52,352
60 to 64	2,495	496	513	605	572	463	99	92	5,335
Total Pay	32,455,630	23,100,794	32,725,511	41,206,400	42,376,896	36,941,095	8,709,800	8,983,816	226,499,942
Avg. Pay	13,008	46,574	63,792	68,110	74,085	79,786	87,978	97,650	42,455
65 & over	2,287	446	197	200	193	173	51	81	3,628
Total Pay	19,301,100	14,575,089	12,694,895	14,471,923	15,031,034	14,072,640	4,570,695	7,753,657	102,471,033
Avg. Pay	8,439	32,680	64,441	72,360	77,881	81,345	89,621	95,724	28,244
Total	28,209	14,623	11,860	8,978	6,311	3,801	801	248	74,831
Total Pay	659,044,067	725,649,666	700,231,755	587,681,122	438,056,597	280,988,601	65,261,365	23,153,234	3,480,066,407
Avg. Pay	23,363	49,624	59,041	65,458	69,412	73,925	81,475	93,360	46,506

Average Age: 43.6

Average Service: 11.2



Schedule F continued ...

**Table 2 – Total Active Member Valuation Data**

Valuation Date	Number	Annual Payroll	Annual Average Pay	Percentage Increase in Average Pay
6/30/2013	74,831	\$ 3,480,066,406	\$ 46,506	1.51%
6/30/2012	75,951	3,479,567,004	45,813	1.33
6/30/2011	76,349	3,451,756,288	45,210	3.97
6/30/2010	76,387	3,321,614,223	43,484	1.51
6/30/2009	75,937	3,253,076,600	42,839	1.43
6/30/2008	75,539	3,190,332,239	42,234	6.67

**Table 3 – Eligible Deferred Vested Members  
as of June 30, 2013  
Medical Insurance Fund  
Male & Female Demographic Breakdown**

Attained Age	Number of Males	Number of Females	Total Number
Under 30	3	22	25
30-34	63	336	399
35-39	150	518	668
40-44	214	633	847
45-49	205	628	833
50-54	200	653	853
55-59	186	543	729
60 & Over	<u>190</u>	<u>366</u>	<u>556</u>
<b>Total</b>	<u><u>1,211</u></u>	<u><u>3,699</u></u>	<u><u>4,910</u></u>

**Table 3 – Eligible Deferred Vested Members  
as of June 30, 2013  
Life Insurance Fund  
Male & Female Demographic Breakdown**

Attained Age	Number of Males	Number of Females	Total Number
Under 30	3	21	24
30-34	50	313	363
35-39	115	449	564
40-44	166	539	705
45-49	154	510	664
50-54	157	498	655
55-59	138	413	551
60 & Over	<u>87</u>	<u>226</u>	<u>313</u>
<b>Total</b>	<u><u>870</u></u>	<u><u>2,969</u></u>	<u><u>3,839</u></u>



Schedule F continued ...

**Table 4 – All Retirees & Spouses Receiving Health Care Benefits  
as of June 30, 2013  
Male & Female Demographic Breakdown**

Attained Age	Number of Males	Number of Females	Total Number
Under 40	11	30	41
40-44	23	64	87
45-49	64	205	269
50-54	376	1,025	1,401
55-59	1,486	3,600	5,086
60-64	3,376	7,173	10,549
65-69	3,423	6,115	9,538
70-74	2,532	4,101	6,633
75-79	1,797	2,550	4,347
80-84	1,097	1,867	2,964
85-89	640	1,191	1,831
90-94	216	568	784
95-99	56	190	246
100	2	14	16
101	2	14	16
102	2	11	13
103	1	5	6
104	0	0	0
105 & Over	0	3	3
Total	<u>15,104</u>	<u>28,726</u>	<u>43,830</u>

**Table 5 – Retirees, Beneficiaries and Survivors added to and Removed From Rolls \*  
Medical Insurance Fund**

Fiscal Year Ending June 30	Number of Members Added to Rolls	Number of Spouses** Added to Rolls	Total Number Added to Rolls	Number of Members Removed from Rolls	Number of Spouses** Removed from Rolls	Total Number Removed from Rolls	Number of Members on Rolls at the End of the Year	Number of Spouses** on Rolls at the End of the Year	Total Number on Rolls at the End of the Year
2008	1,850	593	2,443	901	589	1,490	32,591	6,678	39,269
2009	1,777	640	2,417	887	510	1,397	33,481	6,808	40,289
2010	1,710	555	2,265	876	529	1,405	34,315	6,834	41,149
2011	1,770	629	2,399	1,052	541	1,593	35,033	6,922	41,955
2012	1,996	702	2,698	1,029	616	1,645	36,000	7,008	43,008
2013	1,853	664	2,517	1,076	619	1,695	36,777	7,053	43,830

\* Reflects members, spouses, and beneficiaries participating in a health care plan. \*\* Includes spouses, beneficiaries, and surviving spouses.



Schedule F continued ...

**Table 6 – Retirees, Beneficiaries and Survivors added to and Removed From Rolls \***  
**Life Insurance Fund**

Fiscal Year Ending June 30	Number Added to Rolls	Life Insurance Benefit (\$1,000's)	Number Removed from Rolls	Life Insurance Benefit (\$1,000's)	Number on Rolls at the End of the Year	Life Insurance Benefit (\$1,000's)	Increase in Life Insurance Benefit	Average Life Insurance Benefit
2008	1,966	\$ 9,830	804	\$ 4,020	37,778	\$ 188,890	3.17%	\$ 5,000
2009	1,949	9,745	769	3,845	38,958	194,790	3.12	5,000
2010	1,799	8,995	806	4,030	39,951	199,755	2.55	5,000
2011	2,025	10,125	858	4,290	41,118	205,590	2.92	5,000
2012	2,364	11,820	880	4,400	42,602	213,010	3.61	5,000
2013	2,195	10,975	952	4,760	43,845	219,225	2.92	5,000

*\* The life insurance benefit is payable upon the death of only members retired for service or disability. Numbers do not include life insurance benefits payable upon the death of an active contributing member.*

This page was intentionally left blank.

---

# Actuarial Section

---

Additional Report on  
GASB Statement Number 67



**Cavanaugh Macdonald**  
CONSULTING, LLC  
*The experience and dedication you deserve*

December 13, 2013

Mr. Mark Whelan  
Chief Financial Officer  
Teachers Retirement System of Kentucky  
479 Versailles Road  
Frankfort, KY 40601-3800

**Impact of New GASB Standards – Based on June 30, 2013 Valuation**

Dear Mark:

As requested, we have prepared the accounting information that will be required for KTRS under the newly released Statement No. 67, Financial Reporting for Pension Plans, based on our understanding of the Statement. For KTRS, which is a cost sharing multiple employer plan, all information is reported for the Plan in total. The effective date for Statement 67 is for fiscal years beginning after June 30, 2013, so the first financial statements that would actually reflect the new standards for KTRS would be those prepared for fiscal year ending June 30, 2014.

GASB 67 requires new disclosure information for the Notes to the Plan's Financial Statements and for the Required Supplementary Information. The new statement requires calculation of the Total Pension Liability (TPL) and the Net Pension Liability (NPL). The TPL is the actuarial accrued liability based on certain parameters, and the NPL is the TPL less the market value of assets (referred to in the Statements as the Plan Fiduciary Net Position).

In determining the TPL, the actuary must project assets and expected benefit payments for current active and inactive members to determine if the plan's assets will be sufficient to pay all benefits. In determining the future employer contributions to be used in the projection of the assets, the actuary must use professional judgment if: (a) the contributions are established by statute or contract or (b) a formal, written policy exists. It is our recommendation that the Board of Trustees adopt a formal written funding policy. However, in the absence of such a policy, it is our opinion that the conditions under (a) are met, therefore the actuary may use profession judgment to determine the expected future employer contributions.

If assets are determined to be sufficient to pay expected benefits, the discount rate used to determine the TPL is the expected long-term rate of return on pension plan investments (currently 7.68% for 25 years and 7.50% thereafter, based on valuation interest smoothing methodology). If the assets are not expected to be sufficient, the discount rate is determined as a single rate that reflects the long-term expected rate of return for the period of time that assets are sufficient, and the index rate for 20-year, tax exempt general obligation municipal bonds with an average rating of AA/Aa or higher (estimated to be 4.32% as of June 30, 2013) for the period thereafter.

3550 Busbee Pkwy, Suite 250, Kennesaw, GA 30144

Phone (678) 388-1700 • Fax (678) 388-1730

[www.CavMacConsulting.com](http://www.CavMacConsulting.com)

Offices in Englewood, CO • Kennesaw, GA • Bellevue, NE • Hilton Head Island, SC



We have prepared the disclosures based on two different scenarios. In the first scenario, since the annual required employer contributions determined by actuarial valuations have not been made, we have assumed that the statutory employer rates currently in effect will remain in effect for all years in the future. On this basis, assets would be expected to be depleted in 2037 and we estimated that the single equivalent discount rate to be used to determine the TPL is 5.32%. This reflects the smoothed interest rate as the expected return until the assets are depleted and a 4.32% expected rate of return thereafter.

In the second scenario, we have assumed the employer's annual required contributions will be made through either increases in the contributions or pension obligation bonds. On this basis, assets would be sufficient to pay expected benefit payments and the discount rate used to determine the TPL is the expected long-term rate of return on pension plan investments (currently 7.68% for 25 years and 7.50% thereafter, based on valuation interest smoothing methodology).

The results are based on the June 30, 2013 valuations as though the GASB standards were in effect on those dates.

The following Exhibits are attached to this letter:

- I. Notes to the Financial Statements
- II. Schedules of Required Supplementary Information. The liability numbers shown in the schedules have been prepared based on the two scenarios:
  - a. Discount rate determined using a 5.09% interest rate at the beginning of the year and 5.32% at the end of year; and
  - b. Long-term rate of return on pension plan investments.

The disclosure information required under GASB Statement No. 68, Accounting and Financial Reporting for Pensions will apply to employers and non-employer contributing entities with an effective date for fiscal years beginning after June 30, 2014. A proportionate share of the NPL, as well as an annual pension expense will need to be disclosed on the financial statements of each employer or contributing entity of cost sharing plans such as KTRS. In addition, there are multiple Note disclosures and Required Supplementary Information requirements for the employers under GASB 68. We have not enclosed any exhibits related to this statement. We plan to prepare disclosures for sample employers, including the State of Kentucky, since they are the largest contributing entity, which will be sent under separate cover.

If you have any questions, please give us a call.

Sincerely,



Edward J. Koebel EA, FCA, MAAA  
Principal and Consulting Actuary



Cathy Turcot  
Principal and Managing Director

EXHIBIT I

Notes to the Financial Statements  
 For the Year Ended June 30, 2013  
 (Dollar amounts in thousands)

**Net Pension Liability of Participating Employers and Non-Employer Contributing Entities**

The components of the net pension liability of the employers and non-employer contributing entities at June 30, 2013 were determined based on two different scenarios.

The components, **assuming that employer contributions continue at current levels**, were as follows:

Total pension liability	\$ 38,014,440
Plan fiduciary net position	(16,108,808)
Net pension liability	\$ 21,905,632

Plan fiduciary net position as a percentage of the total pension liability: 42.38%

**Actuarial Assumptions:** The total pension liability on this basis was determined by an actuarial valuation as of June 30, 2013, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	4.00%
Salary increases	4.00-8.20%, including inflation
Long-term expected Investment rate of return	7.68% for 25 years and 7.50% thereafter, net of pension plan investment expense, including inflation
Municipal Bond Rate	4.32%
Discount Rate	5.32%

The components, **assuming that all annual required employer contributions will be made**, were as follows:

Total pension liability	\$ 28,817,232
Plan fiduciary net position	(16,108,808)
Net pension liability	\$ 12,708,424

Plan fiduciary net position as a percentage of the total pension liability: 55.90%

*Exhibit I continued ...*

**Actuarial Assumptions:** The total pension liability on this basis was determined by an actuarial valuation as of June 30, 2013, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	4.00%
Salary increases	4.00-8.20%, including inflation
Long-term expected Investment rate of return thereafter, net of pension plan investment expense, including inflation	7.68% for 25 years and 7.50%

**Other Assumptions:** Mortality rates were based on the RP-2000 Combined Mortality Table for Males or Females, as appropriate, set back one year for females, with adjustments for mortality improvements based on Scale AA projected to 2020.

The actuarial assumptions used in the June 30, 2013 valuation were based on the results of an actuarial experience study for the period July 1, 2005 - June 30, 2010.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of geometric real rates of return for each major asset class included in the pension plan's target asset allocation as of June 30, 2013 (see the discussion of the pension plan's investment policy) are summarized in the following table:

<u>Asset Class</u>	<u>Long-Term Expected Real Rate of Return</u>	<u>Long-Term Expected Nominal Rate of Return (Includes 4% Inflation)</u>
Fixed Income	1.6 %	5.6 %
US Equity	6.4	10.4
Non US Equity	6.5	10.5
High Yield Bonds	3.1	7.1
Alternatives	6.8	10.8
Real Estate	5.8	9.8
Cash	1.5	5.5

Exhibit I continued ...

**Municipal Bond Rate:** The municipal bond rate was based on the S&P Municipal Bond 20 Year High Grade Rate Index published for the week of June 30, 2013.

**Discount Rate:** The discount rate used to measure the total pension liability on the first basis was 5.32%. The projection of cash flows used to determine the discount rate assumed that contributions from plan members will be made at the current statutory contribution rates and that contributions from employers and non-employer contributing entities will be made at the current statutory contribution rates. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make projected future benefit payments of current plan members through June 30, 2037. The long-term expected rate of return on pension plan investments was applied to periods of projected benefit payments through this date and the municipal bond rate was used for the period thereafter to determine the total pension liability. The discount rate used to measure the total pension liability on the second basis was 7.68% for 25 years and 7.5% thereafter. This is equivalent to an average assumed rate of return of approximately 7.66%.

**Sensitivity of the net pension liability to changes in the discount rate:** The following presents the net pension liability of the employers calculated using the discount rate of 5.32%, as well as what the employers' net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (4.32%) or 1 percentage point higher (6.32%) than the current rate:

	<b>1% Decrease (4.32%)</b>	<b>Current Discount Rate (5.32%)</b>	<b>1% Increase (6.32%)</b>
Employers' net pension liability	\$ 27,227,191	\$ 21,905,632	\$ 17,513,811

The following presents the net pension liability of the employers calculated using the discount rate of 7.66 percent, as well as what the employers' net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (6.66%) or 1 percentage point higher (8.66%) than the current rate:

	<b>1% Decrease (6.66%)</b>	<b>Current Discount Rate (7.66%)</b>	<b>1% Increase (8.66%)</b>
Employers' net pension liability	\$ 16,197,051	\$ 12,708,424	\$ 9,872,575

**EXHIBIT II**

**Schedules of Required Supplementary Information  
Schedule of Changes in the Employers' Net Pension Liability**

**Based on 5.32% Discount Rate**  
Last 10 Fiscal Years  
(Dollar amounts in thousands)

	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
<b>Total Pension Liability</b>										
Service Cost	\$ 1,020,475									
Interest	1,893,339									
Benefit Changes	0									
Difference Between Expected and Actual Experience	(166,584)									
Changes of Assumptions	(1,133,629)									
Benefit Payments	(1,570,723)									
Refunds of Contributions	<u>(22,059)</u>									
<b>Net Change in Total Pension Liability</b>	20,819									
<b>Total Pension Liability- Beginning</b>	<u>37,993,621</u>									
<b>Total Pension Liability- Ending (a)</b>	<u>38,014,440</u>									
<b>Plan Fiduciary Net Position</b>										
Contributions - Employer	568,233									
Contributions - Member	304,739									
Net Investment Income	2,039,874									
Benefit Payments	(1,570,723)									
Administrative Expense	(8,377)									
Refunds of Contributions	(22,059)									
Other	<u>0</u>									
<b>Net Change in Plan Fiduciary Net Position</b>	1,311,687									
<b>Plan Fiduciary Net Position - Beginning</b>	<u>14,797,121</u>									
<b>Plan Fiduciary Net Position - Ending (b)</b>	<u>16,108,808</u>									
<b>Employers' Net Pension Liability - Ending (a) - (b)</b>	<u>\$ 21,905,632</u>									

Exhibit II continued ...

**Schedules of Required Supplementary Information  
Schedule of Changes in the Employers' Net Pension Liability**

Based on Valuation Interest Smoothing

Last 10 Fiscal Years

(Dollar amounts in thousands)

		2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
<b>Total Pension Liability</b>											
Service Cost	\$	539,779									
Interest		2,086,344									
Benefit Changes		0									
Difference Between Expected and Actual Experience		(110,704)									
Changes of Assumptions		920,741									
Benefit Payments		(1,570,723)									
Refunds of Contributions		(22,059)									
<b>Net Change in Total Pension Liability</b>		<u>1,843,378</u>									
<b>Total Pension Liability- Beginning</b>		<u>26,973,854</u>									
<b>Total Pension Liability- Ending (a)</b>		<u>28,817,232</u>									
<b>Plan Fiduciary Net Position</b>											
Contributions - Employer		568,233									
Contributions - Member		304,739									
Net Investment Income		2,039,874									
Benefit Payments		(1,570,723)									
Administrative Expense		(8,377)									
Refunds of Contributions		(22,059)									
Other		<u>0</u>									
<b>Net Change in Plan Fiduciary Net Position</b>		<u>1,311,687</u>									
<b>Plan Fiduciary Net Position - Beginning</b>		<u>14,797,121</u>									
<b>Plan Fiduciary Net Position - Ending (b)</b>		<u>16,108,808</u>									
<b>Employers' Net Pension Liability - Ending (a) - (b)</b>	\$	<u>12,708,424</u>									

Exhibit II continued ...

**Schedules of Required Supplementary Information  
Schedule of Employers' Net Pension Liability**

**Based on 5.32% Discount Rate**  
Last 10 Fiscal Years  
(Dollar amounts in thousands)

	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
Total Pension Liability	\$ 38,014,440									
Plan Fiduciary Net Position	<u>16,108,808</u>									
Employers' Net Pension Liability (asset)	<u>21,905,632</u>									
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	42.38%									
Covered-Employee Payroll	3,480,066									
Employers' Net Pension Liability (asset) as a Percentage of Covered-Employee Payroll	629.46%									

**Schedules of Required Supplementary Information  
Schedule of Employers' Net Pension Liability**

**Based on Valuation Interest Smoothing**  
Last 10 Fiscal Years  
(Dollar amounts in thousands)

	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
Total Pension Liability	\$ 28,817,232									
Plan Fiduciary Net Position	<u>16,108,808</u>									
Employers' Net Pension Liability (asset)	<u>12,708,424</u>									
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	55.90%									
Covered-Employee Payroll	3,480,066									
Employers' Net Pension Liability (asset) as a Percentage of Covered-Employee Payroll	365.18%									

Exhibit II continued ...

Schedules of Required Supplementary Information

**Schedule of Employer Contributions**

Last 10 Fiscal Years

(Dollar amounts in thousands)

	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
Covered-Employee Payroll	3,480,066	3,479,567	3,451,756	3,321,614	3,253,077	3,190,332	2,975,289	2,859,477	2,703,430	2,641,533
Actual Employer Contributions	568,233	557,340	1,037,936	479,805	442,550	466,248	434,890	406,107	383,777	364,351
Actuarially Determined Employer Contribution	<u>802,985</u>	<u>757,822</u>	<u>678,741</u>	<u>633,938</u>	<u>600,283</u>	<u>563,789</u>	<u>494,565</u>	<u>406,107</u>	<u>383,777</u>	<u>364,351</u>
Annual Contribution Excess (Deficiency)	<u>(234,752)</u>	<u>(200,482)</u>	<u>359,195</u>	<u>(154,133)</u>	<u>(157,733)</u>	<u>(97,541)</u>	<u>(59,675)</u>	<u>0</u>	<u>0</u>	<u>0</u>
Actual Employer Contributions as a Percentage of Covered-Employee Payroll	16.33%	16.02%	30.07%	14.44%	13.60%	14.61%	14.62%	14.20%	14.20%	13.79%

**Notes to Required Supplementary Information  
for the Year Ended June 30, 2013**

Methods and assumptions used in calculations of actuarially determined contributions. The actuarially determined contribution rates in the schedule of employers' contributions are calculated as of June 30, two years prior to the end of the fiscal year in which contributions are reported. The following actuarial methods and assumptions were used to determine the most recent actuarially determined contribution reported in that schedule:

Actuarial Cost Method	Projected Unit Credit
Amortization method	Level percentage of payroll, open
Remaining amortization period	30 years
Asset Valuation Method	5-year smoothed market
Inflation	4.00%
Salary increases	4.00-8.20% including inflation
Investment rate of return	7.50% net of pension plan investment expense, including inflation



---

# Statistical Section

---

for Fiscal Year ending June 30, 2013

This section of the Kentucky Teachers' Retirement System Comprehensive Annual Financial Report (KTRS CAFR) presents detailed information as a context for understanding the information in the financial statements, note disclosures, and required supplementary information regarding the System's overall financial health.

## CONTENTS

Financial Trends ..... page 151

These schedules contain trend information to help the reader understand how KTRS's financial performance & well-being have changed over time.

Demographic & Economic Information ..... page 153

These schedules offer demographic and economic indicators to help the reader understand the System's environment within which KTRS's financial activities take place.

Operating Information ..... page 159

These schedules contain benefits, service, and employer contribution data to help the reader understand how KTRS's financial report relates to KTRS's services and activities.

**Defined Benefit Plan**  
Past Ten Fiscal Years

**Additions by Source**

Year	Employer Contributions	Member Contributions	Net Investment Income	Total Additions to Plan Net Assets
2013	\$ 568,233,446	\$ 304,738,728	\$ 2,039,874,263	\$ 2,912,846,437
2012	557,339,552	309,729,924	309,696,252	1,176,765,728
2011	1,037,935,993	302,262,819	2,760,972,224	4,101,171,036
2010	479,805,088	297,613,965	1,509,785,381	2,287,204,434
2009	442,549,935	293,678,564	(2,020,682,522)	(1,284,454,023)
2008	466,247,782	291,423,948	(909,083,525)	(151,411,795)
2007	434,890,469	269,687,864	2,063,878,767	2,768,457,100
2006	410,920,969	258,464,856	717,308,002	1,386,693,827
2005	388,346,438	247,024,518	946,070,556	1,581,441,512
2004	382,280,099	238,922,086	1,158,182,688	1,779,384,873

**Deductions by Type**  
(Including Benefits by Type)

Year	Service Retirants	Disability Retirants	Survivors	Life Insurance*	TOTAL Benefits	Refunds	Administrative Expense	Total Deductions to Plan Net Assets
2013	\$ 1,483,412,203	\$ 75,229,293	\$ 12,081,428	\$	\$ 1,570,722,924	\$ 22,059,094	\$ 8,377,003	\$ 1,601,159,021
2012	1,401,380,816	65,297,491	16,260,858		1,482,939,165	19,549,073	7,762,880	1,510,251,118
2011	1,326,033,698	60,950,214	15,551,801		1,402,535,713	17,325,387	7,322,739	1,427,183,839
2010	1,249,272,057	57,782,651	14,754,062		1,321,808,770	15,310,680	8,830,054	1,345,949,504
2009	1,184,075,934	54,562,038	14,342,435		1,252,980,407	15,208,419	8,165,757	1,276,354,583
2008	1,105,078,345	51,842,271	14,048,485		1,170,969,101	15,965,083	7,551,936	1,194,486,120
2007	1,040,003,417	48,863,876	13,671,586		1,102,538,879	14,822,827	7,351,846	1,124,713,552
2006	972,018,057	46,750,585	12,943,639	3,894,000	1,035,606,281	12,834,222	6,839,859	1,055,280,362
2005	902,863,420	44,070,071	12,585,248	3,852,800	963,371,539	10,975,941	6,652,673	981,000,153
2004	827,731,523	41,491,490	12,047,275	4,015,801	885,286,089	10,471,607	6,578,420	902,336,116

\* Life Insurance Plan valued separately-- see page 153.

**Changes in Net Assets**

Year	Total Additions to Plan Net Assets	Total Deductions to Plan Net Assets	Changes in Plan Net Assets
2013	\$ 2,912,846,437	\$ 1,601,159,021	\$ 1,311,687,416
2012	1,176,765,728	1,510,251,118	(333,485,390)
2011	4,101,171,036	1,427,183,839	2,673,987,197
2010	2,287,204,434	1,345,949,504	941,254,930
2009	(1,284,454,023)	1,276,354,583	(2,560,808,606)
2008	(151,411,795)	1,194,486,120	(1,345,897,915)
2007	2,768,457,100	1,124,713,552	1,643,743,548
2006	1,386,693,827	1,055,280,362	331,413,465
2005	1,581,441,512	981,000,153	600,441,359
2004	1,779,384,873	902,336,116	877,048,757

**Medical Insurance Plan  
Past Ten Fiscal Years**

**Additions by Source**

Year	Employer Contributions	Member Contributions	Recovery Income	Net Investment Income	Total Additions to Plan Net Assets
2013	\$ 166,576,444	\$ 119,795,780	\$ 34,976	\$ 30,718,836	\$ 317,126,036
2012	173,966,623	100,346,070	3,781,222	(3,989,202)	274,104,713
2011	188,241,202	84,147,337	493,312	8,334,296	281,216,147
2010	158,761,433	63,805,573	14,618,348	12,312,999	249,498,353
2009	164,408,037	58,688,767	13,683,830	11,296,280	248,076,914
2008	148,929,322	55,402,830	11,936,887	8,128,179	224,397,218
2007	113,233,784	53,099,678	10,337,338	6,722,080	183,392,880
2006	89,319,498	51,697,167	6,117,979	6,804,286	153,938,930
2005	79,022,562	51,576,031		6,507,537	137,106,130
2004	53,346,747	53,903,551		7,127,109	114,377,407

**Deductions by Type  
(Including Benefits by Type)**

**Insurance Benefit Expense**

Year	Under Age 65	Age 65 & Over	Administrative Expense	Total Insurance Benefits Expense	Refunds*	Total Deductions to Plan Net Assets
2013	\$ 142,170,438	\$ 98,761,180	\$ 1,275,206	\$ 242,206,824	\$	\$ 242,206,824
2012	156,228,181	72,746,945	1,201,629	230,176,755		230,176,755
2011	145,544,405	80,890,958	1,186,029	227,621,392		227,621,392
2010	136,702,152	100,675,376		237,377,528		237,377,528
2009	123,819,475	81,037,647		204,857,122		204,857,122
2008	107,437,450	71,838,765		179,276,215	10,014	179,286,229
2007	104,828,254	69,400,843		174,229,097	5,834	174,234,931
2006	102,970,290	66,660,106		169,630,396	5,143	169,635,539
2005	82,186,847	64,233,482		146,420,329	9,072	146,429,401
2004	69,139,458	54,128,210		123,267,668	12,150	123,279,818

\*Refunds are netted against member contributions beginning fiscal year 2009.

**Changes in Net Assets**

Year	Total Additions to Plan Net Assets	Total Deductions to Plan Net Assets	Changes in Plan Net Assets
2013	\$ 317,126,036	\$ 242,206,824	\$ 74,919,212
2012	274,104,713	230,176,755	43,927,958
2011	281,216,147	227,621,392	53,594,755
2010	249,498,353	237,377,528	12,120,825
2009	248,076,914	204,857,122	43,219,792
2008	224,397,218	179,286,229	45,110,989
2007	183,392,880	174,234,931	9,157,949
2006	153,938,930	169,635,539	(15,696,609)
2005	137,106,130	146,429,401	(9,323,271)
2004	114,377,407	123,279,818	(8,902,411)

**Life Insurance Plan**  
Past Seven Fiscal Years

**Additions by Source**

Year	Employer Contributions	Net Investment Income	Total Additions to Plan Net Assets
2013	\$ 1,680,495	\$ 674,760	\$ 2,355,255
2012	1,684,711	6,450,022	8,134,733
2011	1,668,822	3,094,776	4,763,598
2010	1,966,826	5,383,644	7,350,470
2009	5,455,473	5,282,958	10,738,431
2008	5,411,249	6,321,491	11,732,740
2007	5,022,137	(3,413,537)	1,608,600

**Deductions by Type**  
(Including Benefits by Type)

**Changes in Net Assets**

Year	Life Insurance	Total Deductions to Plan Net Assets	Total Additions to Plan Net Assets	Total Deductions to Plan Net Assets	Changes in Plan Net Assets
2013	\$ 4,614,718	\$ 4,639,143	\$ 2,355,255	\$ 4,639,143	\$ (2,283,888)
2012	4,397,281	4,420,167	8,134,733	4,420,167	3,714,566
2011	4,120,000	4,141,511	4,763,598	4,141,511	622,087
2010	4,148,511	4,148,511	7,350,470	4,148,511	3,201,959
2009	3,694,000	3,694,000	10,738,431	3,694,000	7,044,431
2008	4,003,000	4,003,000	11,732,740	4,003,000	7,729,740
2007	4,245,000	4,245,000	1,608,600	4,245,000	(2,636,400)

**Distribution of Active Contributing Members**  
as of June 30, 2013

By Age			By Service		
Age	Male	Female	Years of Service	Male	Female
20-24	985	3,139	Less than 1	9,374	23,982
25-29	3,562	9,958	1-4	5,121	16,003
30-34	3,732	10,489	5-9	3,952	12,682
35-39	3,352	9,796	10-14	2,894	9,353
40-44	3,320	10,710	15-19	2,107	6,302
45-49	2,785	8,887	20-24	1,447	4,337
50-54	2,410	7,635	25-29	620	1,962
55-59	2,163	6,372	30-34	115	332
60-64	1,869	4,869	35 or more	60	92
65-69	1,028	2,239	TOTAL	25,690	75,045
Over 70	484	951			
Total	25,690	75,045			

**Principal Participating Employers  
Current Year and Nine Years Ago**

	2013			2004		
	Covered Employees	Rank	Percentage of Total System	Covered Employees	Rank	Percentage of Total System
Jefferson County Schools	10,215	1	13.44%	9,457	1	13.00%
Fayette County Public Schools	4,691	2	6.17	3,944	2	5.42
Boone County Schools	1,852	3	2.44	1,385	3	1.90
Hardin County Schools	1,357	4	1.79	1,230	4	1.69
Kenton County Schools	1,297	5	1.71	1,094	5	1.50
Warren County Schools	1,260	6	1.66	1,037	7	1.43
Bullitt County Schools	1,238	7	1.63	988	11	1.36
Oldham County Schools	1,203	8	1.58	965	10	1.33
Madison County Schools	1,159	9	1.52	1,022	9	1.41
Daviess County Schools	1,087	10	1.43	1,019	8	1.40
All Other*	<u>50,651</u>		<u>66.64</u>	<u>50,591</u>		<u>69.56%</u>
<b>TOTAL (208 Employers)</b>	<b><u>76,010</u></b>		<b><u>100.00%</u></b>	<b><u>72,732</u></b>		<b><u>100.00%</u></b>

\* In 2013, "all other" consisted of:

Type	Number	Employees
Local School Districts	164	44,943
Higher Education	6	3,663
State Agencies	16	1,642
Regional Coops	7	301
Other	<u>5</u>	<u>102</u>
<b>TOTAL</b>	<b><u>198</u></b>	<b><u>50,651</u></b>

**KTRS Schedule of Participating Employers  
School Districts: County Schools**

- |                  |                |                |                |                 |
|------------------|----------------|----------------|----------------|-----------------|
| 1. Adair         | 25. Clark      | 49. Harrison   | 73. Madison    | 97. Perry       |
| 2. Allen         | 26. Clay       | 50. Hart       | 74. Magoffin   | 98. Pike        |
| 3. Anderson      | 27. Clinton    | 51. Henderson  | 75. Marion     | 99. Powell      |
| 4. Ballard       | 28. Crittenden | 52. Henry      | 76. Marshall   | 100. Pulaski    |
| 5. Barren        | 29. Cumberland | 53. Hickman    | 77. Martin     | 101. Robertson  |
| 6. Bath          | 30. Daviess    | 54. Hopkins    | 78. Mason      | 102. Rockcastle |
| 7. Bell          | 31. Edmonson   | 55. Jackson    | 79. McCracken  | 103. Rowan      |
| 8. Boone         | 32. Elliott    | 56. Jefferson  | 80. McCreary   | 104. Russell    |
| 9. Bourbon       | 33. Estill     | 57. Jessamine  | 81. McLean     | 105. Scott      |
| 10. Boyd         | 34. Fayette    | 58. Johnson    | 82. Meade      | 106. Shelby     |
| 11. Boyle        | 35. Fleming    | 59. Kenton     | 83. Menifee    | 107. Simpson    |
| 12. Bracken      | 36. Floyd      | 60. Knott      | 84. Mercer     | 108. Spencer    |
| 13. Breathitt    | 37. Franklin   | 61. Knox       | 85. Metcalfe   | 109. Taylor     |
| 14. Breckinridge | 38. Fulton     | 62. Larue      | 86. Monroe     | 110. Todd       |
| 15. Bullitt      | 39. Gallatin   | 63. Laurel     | 87. Montgomery | 111. Trigg      |
| 16. Butler       | 40. Garrard    | 64. Lawrence   | 88. Morgan     | 112. Trimble    |
| 17. Caldwell     | 41. Grant      | 65. Lee        | 89. Muhlenberg | 113. Union      |
| 18. Calloway     | 42. Graves     | 66. Leslie     | 90. Nelson     | 114. Warren     |
| 19. Campbell     | 43. Grayson    | 67. Letcher    | 91. Nicholas   | 115. Washington |
| 20. Carlisle     | 44. Green      | 68. Lewis      | 92. Ohio       | 116. Wayne      |
| 21. Carroll      | 45. Greenup    | 69. Lincoln    | 93. Oldham     | 117. Webster    |
| 22. Carter       | 46. Hancock    | 70. Livingston | 94. Owen       | 118. Whitley    |
| 23. Casey        | 47. Hardin     | 71. Logan      | 95. Owsley     | 119. Wolfe      |
| 24. Christian    | 48. Harlan     | 72. Lyon       | 96. Pendleton  | 120. Woodford   |

**KTRS Schedule of Participating Employers (continued)**  
**School Districts: City Schools**

- |                    |                      |                 |                   |
|--------------------|----------------------|-----------------|-------------------|
| 1. Anchorage       | 15. Covington        | 29. Hazard      | 43. Pineville     |
| 2. Ashland         | 16. Danville         | 30. Jackson     | 44. Raceland      |
| 3. Augusta         | 17. Dawson Springs   | 31. Jenkins     | 45. Russell       |
| 4. Barbourville    | 18. Dayton           | 32. Ludlow      | 46. Russellville  |
| 5. Bardstown       | 19. East Bernstadt   | 33. Mayfield    | 47. Science Hill  |
| 6. Beechwood       | 20. Elizabethtown    | 34. Middlesboro | 48. Silver Grove  |
| 7. Bellevue        | 21. Eminence         | 35. Monticello  | 48. Somerset      |
| 8. Berea           | 22. Erlanger-Elsmere | 36. Murray      | 50. Southgate     |
| 9. Bowling Green   | 23. Fairview         | 37. Newport     | 51. Walton-Verona |
| 10. Burgin         | 24. Fort Thomas      | 38. Owensboro   | 52. West Point    |
| 11. Campbellsville | 25. Frankfort        | 39. Paducah     | 53. Williamsburg  |
| 12. Caverna        | 26. Fulton           | 40. Paintsville | 54. Williamstown  |
| 13. Cloverport     | 27. Glasgow          | 41. Paris       |                   |
| 14. Corbin         | 28. Harlan           | 42. Pikeville   |                   |

**Universities & Community/  
 Technical Colleges**

1. Eastern Kentucky
2. Kentucky State
3. Morehead State
4. Murray State
5. Western Kentucky
6. Kentucky Community & Technical College System

**State of Kentucky/  
 Other Organizations**

**State of Kentucky**

1. Education and Humanities Cabinet
2. Legislative Research Commission
3. Workforce Investment Cabinet
4. Finance and Administration Cabinet

**Other Organizations**

1. Education Professional Standards Board
2. Kentucky Education Association
3. Kentucky Academic Association
4. Kentucky Educational Development Cooperative
5. Kentucky High School Athletic Association
6. Kentucky School Boards Association
7. Kentucky Valley Educational Cooperative
8. Northern Kentucky Cooperative for Educational Services
9. Ohio Valley Educational Cooperative
10. West Kentucky Education Cooperative
11. Green River Regional Education Cooperative
12. Central Kentucky Special Education Cooperative

117 ALABAMA	8 NEW JERSEY
1 ALASKA	18 NEW MEXICO
83 ARIZONA	40 NEW YORK
34 ARKANSAS	233 NORTH CAROLINA
101 CALIFORNIA	2 NORTH DAKOTA
55 COLORADO	568 OHIO
11 CONNECTICUT	28 OKLAHOMA
8 DELAWARE	27 OREGON
1011 FLORIDA	50 PENNSYLVANIA
249 GEORGIA	0 RHODE ISLAND
3 HAWAII	172 SOUTH CAROLINA
8 IDAHO	10 SOUTH DAKOTA
91 ILLINOIS	810 TENNESSEE
645 INDIANA	180 TEXAS
16 IOWA	25 UTAH
35 KANSAS	1 VERMONT
37 LOUISIANA	145 VIRGINIA
16 MAINE	40 WASHINGTON
30 MARYLAND	99 WEST VIRGINIA
22 MASSACHUSETTS	27 WISCONSIN
43 MICHIGAN	1 WYOMING
19 MINNESOTA	
52 MISSISSIPPI	
77 MISSOURI	
6 MONTANA	
6 NEBRASKA	
21 NEVADA	
5 NEW HAMPSHIRE	

## Distribution of Retirement and Medical Payments Worldwide

As of June 30, 2013



### Additional Distribution Outside USA

1 Australia	2 Military APO
1 Barbados	1 Philippines
5 Canada	1 Switzerland
7 District of Columbia	

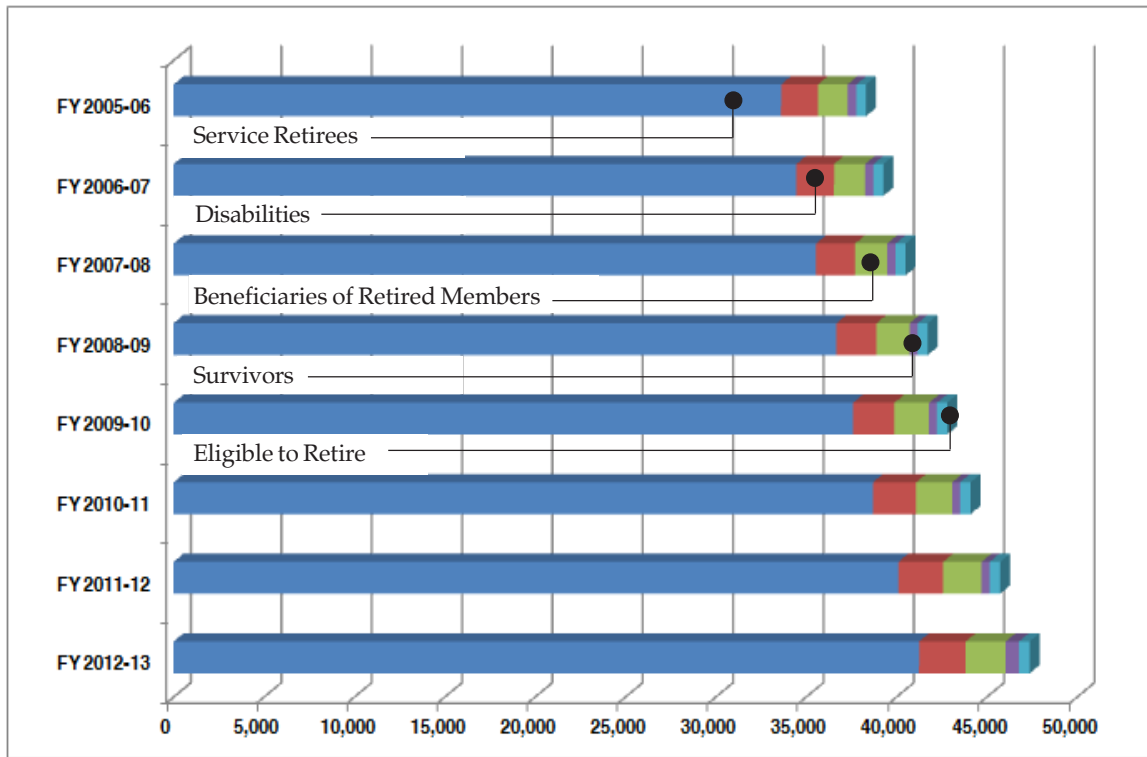
<b>TOTAL:</b> Number of Out of State Payments .....	5,304
<b>TOTAL:</b> Out of State Payments .....	\$138,906,802
<b>TOTAL:</b> Number of Payments .....	48,714
<b>GRAND TOTAL:</b> Amount of Payments .....	\$1,733,296,377



**Distribution of Retirement and Medical Payments Statewide  
as of June 30, 2013**

County Name	Total Payments	Number of Recipients	County Name	Total Payments	Number of Recipients
Adair	\$ 6,242,878	192	Laurel	21,139,251	612
Allen	6,094,938	168	Lawrence	5,049,212	153
Anderson	7,189,732	210	Lee	2,568,353	79
Ballard	4,336,077	126	Leslie	5,281,291	151
Barren	14,818,112	406	Letcher	11,383,077	335
Bath	4,135,329	127	Lewis	6,435,760	179
Bell	13,230,779	382	Lincoln	10,372,481	283
Boone	32,635,128	836	Livingston	3,253,079	93
Bourbon	6,673,696	193	Logan	9,462,678	268
Boyd	19,561,013	520	Lyon	3,789,274	102
Boyle	16,276,131	440	Madison	47,803,595	1292
Bracken	3,652,718	99	Magoffin	6,070,001	175
Breathitt	8,069,676	241	Marion	6,013,514	173
Breckinridge	6,562,334	177	Marshall	12,743,463	342
Bullitt	16,285,050	408	Martin	4,906,084	141
Butler	3,443,798	98	Mason	6,913,623	197
Caldwell	6,467,090	183	McCracken	25,398,824	693
Calloway	23,500,809	645	McCreary	6,757,180	207
Campbell	26,233,875	672	McLean	4,029,455	107
Carlisle	1,456,056	47	Meade	6,698,398	171
Carroll	2,971,484	83	Menifee	2,045,626	67
Carter	12,713,540	373	Mercer	8,373,946	253
Casey	5,324,707	166	Metcalfe	3,804,587	108
Christian	18,812,669	521	Monroe	5,376,133	155
Clark	11,890,508	336	Montgomery	11,568,396	313
Clay	10,328,931	277	Morgan	6,324,960	177
Clinton	5,086,597	147	Muhlenberg	11,369,066	293
Crittenden	2,215,039	71	Nelson	14,372,885	379
Cumberland	3,371,090	93	Nicholas	2,002,730	57
Daviess	38,780,851	1047	Ohio	7,019,784	200
Edmonson	3,672,599	101	Oldham	17,080,503	430
Elliott	2,094,174	67	Owen	2,910,060	84
Estill	5,110,796	144	Owsley	3,915,257	116
Fayette	101,402,558	2814	Pendleton	4,873,216	139
Fleming	5,739,688	174	Perry	13,234,747	381
Floyd	19,019,889	561	Pike	29,014,805	831
Franklin	26,590,909	884	Powell	4,410,859	120
Fulton	2,581,466	72	Pulaski	23,829,018	691
Gallatin	932,366	25	Robertson	784,948	22
Garrard	6,704,084	182	Rockcastle	6,735,366	186
Grant	6,791,441	170	Rowan	16,569,435	467
Graves	14,439,281	395	Russell	7,973,833	222
Grayson	9,296,068	257	Scott	13,964,536	388
Green	4,153,310	111	Shelby	15,695,497	424
Greenup	13,634,173	380	Simpson	5,679,085	156
Hancock	2,694,191	73	Spencer	5,065,605	129
Hardin	30,468,102	820	Taylor	10,291,062	300
Harlan	13,978,998	407	Todd	3,198,516	97
Harrison	7,404,029	203	Trigg	5,955,104	175
Hart	5,062,238	134	Trimble	2,021,031	50
Henderson	15,092,861	401	Union	4,187,272	122
Henry	6,404,421	188	Warren	56,722,179	1579
Hickman	1,207,478	35	Washington	3,756,029	108
Hopkins	16,542,346	450	Wayne	7,912,998	222
Jackson	4,347,235	139	Webster	4,613,511	135
Jefferson	265,033,692	6353	Whitley	22,987,712	656
Jessamine	11,949,392	341	Wolfe	3,906,135	115
Johnson	12,370,328	338	Woodford	10,152,422	277
Kenton	32,585,335	870			
Knott	8,083,545	238			
Knox	9,351,018	274			
Larue	5,523,482	148			
			<b>Total in Kentucky</b>	<b>\$ 1,594,389,575</b>	<b>43,410</b>

### Growth in Annuitants as of June 30, 2013



Fiscal Year	Service Retirees	Disabilities	Beneficiaries of Retired Members	Survivors	Eligible to Retire
2005-06	33,618	2,039	1,631	495	531
2006-07	34,462	2,086	1,722	466	549
2007-08	35,550	2,155	1,778	468	554
2008-09	36,684	2,209	1,837	448	559
2009-10	37,607	2,284	1,915	435	567
2010-11	38,705	2,379	2,003	430	584
2011-12	40,107	2,478	2,126	444	596
2012-13	41,255	2,582	2,207	735	601

**Schedule of Annuitants by Type of Benefit  
as of June 30, 2013**

Amount of Monthly Benefit (\$)	Number of Annuitants	Type of Retirement*				
		1	2	3	4	5
1 - 500	3,406	2,506	21	383	193	303
501 - 1,000	2,679	2,089	175	7	408	0
1,001 - 1,500	3,139	2,228	310	3	598	0
1,501 - 2,000	3,780	2,928	420	1	431	0
2,001 - 2,500	5,725	4,690	623	14	398	0
2,501 - 3,000	8,732	7,809	609	14	300	0
3,001 - 3,500	7,219	6,797	233	4	185	0
3,501 - 4,000	4,773	4,520	120	1	132	0
4,001 - 4,500	3,110	2,996	43	4	67	0
4,501 - 5,000	1,822	1,767	18	0	37	0
5,001 & OVER	2,995	2,925	10	1	59	0
<b>Total**</b>	<b>47,380</b>	<b>41,255</b>	<b>2,582</b>	<b>432</b>	<b>2,808</b>	<b>303</b>

**\*Type of Retirement**

- 1-Normal Retirement for Age & Service
- 2-Disability Retirement
- 3-Survivor Payment - Active Member

- 4-Beneficiary Payment - Retired Member
- 5-Disabled Adult Child

\*\* Retirees in waiver program are not included.

Amount of Monthly Benefit (\$)	Option Selected*							
	1	2	3	4	5	6	7	None
1 - 500	1,762	394	279	62	7	407	113	382
501 - 1,000	1,400	315	228	114	9	326	209	78
1,001 - 1,500	1,555	338	307	145	10	394	300	90
1,501 - 2,000	2,011	414	349	158	9	472	268	99
2,001 - 2,500	2,714	562	510	214	5	909	566	245
2,501 - 3,000	4,381	868	676	227	12	1,425	868	275
3,001 - 3,500	3,756	785	520	224	11	1,070	775	78
3,501 - 4,000	2,433	495	397	153	7	717	523	48
4,001 - 4,500	1,597	309	265	97	5	426	397	14
4,501 - 5,000	911	204	147	90	8	259	197	6
5,001 & OVER	1,544	256	326	147	15	350	353	4
<b>Total</b>	<b>24,064</b>	<b>4,940</b>	<b>4,004</b>	<b>1,631</b>	<b>98</b>	<b>6,755</b>	<b>4,569</b>	<b>1,319</b>

**\*Option selected:**

- 1 - Straight-life annuity with refundable balance
- 2 - Period certain benefit and life thereafter
- 3 - Joint-survivor annuity
- 4 - Joint-survivor annuity, one-half benefit to beneficiary
- 5 - Other payment - special option

- 6 - Joint-survivor annuity with "pop-up" option
- 7 - Joint-survivor annuity, one-half benefit to beneficiary with "pop-up" option

**Defined Benefit Plan  
Average Benefit Payments for the Past Ten Years  
By Years of Service Credit**

<b>Retirement Effective Dates</b>	<b>00-4.99</b>	<b>05-9.99</b>	<b>10-14.99</b>	<b>15-19.99</b>	<b>20-24.99</b>	<b>25-29.99</b>	<b>30&gt;=</b>	<b>TOTAL</b>
07/01/2003 TO 06/30/2004								
Average monthly benefit	\$220	\$474	\$839	\$1,444	\$1,940	\$2,758	\$3,486	\$2,502
Average final monthly salary	\$5,243	\$3,357	\$3,349	\$3,936	\$4,078	\$4,425	\$5,062	\$4,435
Number of retired members	43	84	98	96	155	818	405	1,689
07/01/2004 TO 06/30/2005								
Average monthly benefit	\$187	\$528	\$906	\$1,488	\$1,978	\$2,892	\$3,860	\$2,883
Average final monthly salary	\$4,353	\$3,511	\$3,647	\$4,055	\$4,182	\$4,602	\$5,275	\$4,724
Number of retired members	55	98	107	106	145	811	875	2,197
07/01/2005 TO 06/30/2006								
Average monthly benefit	\$202	\$473	\$1,019	\$1,493	\$2,037	\$2,998	\$4,063	\$2,827
Average final monthly salary	\$4,106	\$3,253	\$4,052	\$4,117	\$4,317	\$4,721	\$5,490	\$4,773
Number of retired members	44	105	106	132	145	689	604	1,873
07/01/2006 TO 06/30/2007								
Average monthly benefit	\$178	\$514	\$930	\$1,559	\$2,136	\$3,140	\$4,263	\$2,900
Average final monthly salary	\$4,102	\$3,346	\$3,590	\$4,228	\$4,537	\$4,970	\$5,758	\$4,916
Number of retired members	48	113	90	109	193	534	514	1,577
07/01/2007 TO 06/30/2008								
Average monthly benefit	\$199	\$524	\$1,117	\$1,658	\$2,276	\$3,279	\$4,319	\$2,984
Average final monthly salary	\$3,816	\$3,066	\$4,215	\$4,412	\$4,612	\$5,067	\$5,786	\$5,017
Number of retired members	50	130	112	150	169	557	615	1,831
07/01/2008 TO 06/30/2009								
Average monthly benefit	\$200	\$573	\$1,005	\$1,725	\$2,436	\$3,368	\$4,496	\$2,941
Average final monthly salary	\$4,617	\$3,942	\$3,873	\$4,686	\$4,983	\$5,278	\$5,960	\$5,164
Number of retired members	72	168	137	115	217	505	585	1,824
07/01/2009 TO 06/30/2010								
Average monthly benefit	\$185	\$525	\$1,104	\$1,700	\$2,427	\$3,468	\$4,670	\$3,222
Average final monthly salary	\$3,654	\$3,637	\$4,124	\$4,508	\$4,974	\$5,383	\$6,102	\$5,316
Number of retired members	28	133	98	103	242	442	601	1,647
07/01/2010 TO 06/30/2011								
Average monthly benefit	\$149	\$519	\$1,225	\$1,781	\$2,513	\$3,621	\$4,827	\$3,240
Average final monthly salary	\$3,570	\$3,640	\$4,423	\$4,825	\$5,184	\$5,574	\$6,235	\$5,392
Number of retired members	45	157	144	112	242	544	617	1,854
07/01/2011 TO 06/30/2012								
Average monthly benefit	\$175	\$507	\$1,170	\$1,897	\$2,613	\$3,674	\$4,726	\$3,148
Average final monthly salary	\$3,292	\$3,759	\$4,307	\$4,898	\$5,219	\$5,605	\$6,109	\$5,331
Number of retired members	45	197	146	162	303	778	569	2,200
07/01/2012 TO 06/30/2013								
Average monthly benefit	\$161	\$475	\$1,186	\$1,963	\$2,781	\$3,811	\$5,162	\$3,149
Average final monthly salary	\$3,362	\$3,660	\$4,498	\$4,956	\$5,518	\$5,799	\$6,632	\$5,476
Number of retired members	44	234	156	154	294	685	447	2,014
<b>Ten Years Ended June 30,2013</b>								
Average monthly benefit	\$186	\$512	\$1,067	\$1,691	\$2,429	\$3,276	\$4,373	\$2,985
Average final monthly salary	\$4,060	\$3,565	\$4,058	\$4,499	\$4,961	\$5,106	\$5,820	\$5,061
Number of retired members	474	1,419	1,194	1,239	2,185	6,363	5,832	18,706

**Medical Insurance Plan**  
Average Insurance Premium Supplements for the Last Ten Years

	Years of Service Credit				TOTAL
	00-9.99	10-14.99	15-19.99	20>=	
<b>Retirement Effective Dates</b>					
07/01/2003 to 06/30/2004					
Average monthly supplement	\$ 100.50	\$ 148.85	\$ 219.41	\$ 289.98	
Number of retired members	30	59	82	1,365	1,536
07/01/2004 to 06/30/2005					
Average monthly supplement	\$ 138.29	\$ 214.32	\$ 305.39	\$ 394.92	
Number of retired members	36	70	93	1,768	1,967
07/01/2005 to 06/30/2006					
Average monthly supplement	\$ 161.03	\$ 241.76	\$ 362.31	\$ 487.23	
Number of retired members	28	49	106	1,440	1,623
07/01/2006 to 06/30/2007					
Average monthly supplement	\$ 146.24	\$ 260.95	\$ 363.45	\$ 489.73	
Number of retired members	29	53	80	949	1,111
07/01/2007 to 06/30/2008					
Average monthly supplement	\$ 162.54	\$ 260.71	\$ 378.28	\$ 512.29	
Number of retired members	36	61	104	952	1,153
07/01/2008 to 06/30/2009					
Average monthly supplement	\$ 167.78	\$ 298.09	\$ 414.38	\$ 562.59	
Number of retired members	26	64	103	1,329	1,522
07/01/2009 to 06/30/2010					
Average monthly supplement	\$ 151.05	\$ 339.31	\$ 435.19	\$ 621.12	
Number of retired members	32	73	103	1,276	1,484
07/01/2010 to 06/30/2011					
Average monthly supplement	\$ 167.03	\$ 311.93	\$ 438.84	\$ 597.41	
Number of retired members	30	32	109	1,360	1,531
07/01/2011 to 06/30/2012					
Average monthly supplement	\$ 164.12	\$ 302.19	\$ 433.25	\$ 579.29	
Number of retired members	29	81	121	1,568	1,799
07/01/2012 to 06/30/2013					
Average monthly supplement	\$ 80.23	\$ 227.32	\$ 366.98	\$ 499.25	
Number of retired members	29	90	104	1,373	1,596

**Summary of Fiscal Year 2012-2013**

**Retiree Sick Leave Payments**

**ACTUARIAL RATE**

Grand Total Members Retiring		2238
Total members receiving sick leave payments		1539
Total amount of sick leave payments @ 10.855% contribution rate	\$	21,244,401
Average payment per retiree	\$	13,804
Total increase in final 3/5 average salary base	\$	5,886,567
Average increase in final average salary	\$	3,825
Total service credit of 1,539 retirees		38,959
Average service credit of 1,539 retirees		25.31
Additional Average Monthly Annuity payment per Retirement Formula		
$3,825 \times 25.31 \times 2.50\% =$	\$	2,420
$2,420 / 12 \text{ months}$	\$	202
Anticipated Lifetime Payout of Additional Annuity		
$202 \times 142.1587 \times 1,539 \text{ new factor}$	\$	44,133,035

**Funding of Additional Payments**

Member contributions $9.105\% \times \$21,244,401 =$	\$	1,934,303
Employer contributions $12.305\% \times \$21,244,401 =$		<u>2,614,123</u>
<b>Total Contributions</b>	<b>\$</b>	<b><u>4,548,426</u></b>
<b>DEFICIT:</b>		
Anticipated additional payout	\$	44,133,035
Less total contributions		<u>4,548,426</u>
Subtotal unfunded debt		39,584,609
Less current year appropriation		<u>4,190,100</u>
<b>TOTAL DEFICIT (overpayment)*</b>	<b>\$</b>	<b><u>35,394,509</u></b>

\* NOTE: Actuarial factors used for sick leave calculations changed effective July 1, 1998. Sick leave deficits are amortized over 20 year periods.