

JOINT COMMITTEE ON PUBLIC EMPLOYEE RETIREMENT
FIRST QUARTER MEETING
January 23, 2014

The Joint Committee on Public Employee Retirement held its 1st Quarter Meeting on Thursday, January 23, 2014 at 8:00 am in House Hearing Room 1. With a quorum being established, Representative Leara called the meeting to order. Joint Committee members in attendance were Senators Lamping, Chappelle-Nadal, Keaveny, and Walsh and Representative Anders, Bernskoetter, Pierson, Runions, and Wieland. Senators Kehoe and Rupp were not in attendance.

Representative Leara turned the meeting over to the Executive Director, Ronda Stegmann. Legislation being tracked relative to pension issues was reviewed. It was noted that currently 8 bills are being monitored and as the legislative session continues it is expected that this number will increase.

The proposed modifications to JCPER governing and plan reporting statutes contained in Chapters 21 and 105 were discussed, along with plan responses to the proposed changes. These proposed modifications are to provide clarification of existing statutes and to address issues or suggestions during the last several years. A draft of the proposed modifications were sent to all public pension plans and 10 responses were received representing 12 plans. All of the responding plans were appreciative of the opportunity to provide feedback and suggestions. The director reviewed suggestions received and resulting draft modifications. A motion was made by the Chairman and seconded by Senator Keaveny to support the proposed modifications to Chapters 21 and 105. The motion passed unanimously. Senators Kehoe and Rupp were not in attendance for this vote.

The 2013 Annual Report to the General Assembly was reviewed. It was noted plan year 2012 aggregate actuarial accrued liabilities equaled \$73 billion, actuarial value of assets equaled \$57 billion and market value of assets equaled \$55.7 billion. These levels represent approximately \$16 billion in unfunded actuarial accrued liability. Preliminary plan year 2013 experience indicates this unfunded liability was reduced by approximately \$2 billion due to positive investment performance in plan year 2013. Membership changes, net investment income and contribution rates for plan year 2012 were also reviewed.



The Director discussed agenda items associated with plan updates and issues. Ongoing litigation involving several different pension plans was reviewed. These updates included activity relative to the Sheriff's Retirement System, St. Louis Firemen's Retirement System and the Joplin Police & Fire Retirement Plan. Chairman Leara asked for staff to keep committee members aware of any movement of litigation and to forward any resulting rulings. Additionally, the April 2014 renewal of the 3/4 cent sales tax originally passed in 2009 by Springfield voters was reviewed. This tax revenue has been used to provide additional funding for the closed Springfield Police & Fire Retirement Plan. It was noted state statute requires this tax renewal after 5 years.

Quarterly plan reporting was reviewed from the third quarter of 2013. Sixty-one defined benefit plans participated in this reporting.

The Director discussed the current status regarding the State Auditor's retirement survey. This activity included a questionnaire forwarded to 15 large pension plans by the State Auditor's office and according to the Auditor's office, this survey is for informational purposes only and is not considered an audit. Per discussion with State Auditor's office staff, this informational report should be completed by the end of the legislative session. Staff will forward a copy to the committee as soon as it becomes available.

No further business being presented, the committee adjourned.


Ronda Stegmann
Executive Director



JOINT COMMITTEE ON PUBLIC EMPLOYEE RETIREMENT

1st QUARTER MEETING
January 23, 2014
8:00a.m.— House Hearing Room 1

AGENDA

Roll Call

Legislation

Statutory Considerations

Annual Report

Plan Updates/Issues

Sheriff's Retirement System
St. Louis Firemen's Retirement System
Springfield Police & Fire Retirement Plan
Joplin Police & Fire Retirement Plan

Quarterly Reporting

State Auditor's Office

Other Business



2014 RETIREMENT LEGISLATION

SENATE BILLS			SENATE ACTION						HOUSE ACTION				OTHER ACTION	
Bill Number	System Affected	Description	Sponsor	Committee Assigned	Date/ Time Hearing Rm	Committee Action	Perfected	Passed 3rd Read	Committee Assigned	Date/ Time Hearing Rm	Committee Action	Passed 3rd Read	Notes	Governor Action
SB 550	All Public Plans	Provides that public employees are ineligible for retirement benefits if found guilty of certain crimes	Sater	Governmental Accountability & Fiscal Oversight										
SB 675 (HB 1044)	LAGERS	Allows a covered employer to elect LAGERS administration of prior closed pension plan	Kehoe											

2014 RETIREMENT LEGISLATION

HOUSE BILLS			HOUSE ACTION						SENATE ACTION				OTHER ACTION	
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HB 1044 (SB 675)	LAGERS	Allows a covered employer to elect LAGERS administration of prior closed pension plan	Leara	Retirement	01/16/14 9:00 am HHR 1									
HB 1217	All Public Plans	Specifies certain unlawful transfers or assignments of pension benefits	Dugger	Financial Institutions	01/22/14 12:00 pm HHR 4									
HB 1244	MOSERS	Modifies retirement benefit formula for General Assembly members & Statewide Elected Officials who first hold office on or after 01/01/15 to be under the same provisions as general state employees	Barnes	Administration & Accounts										
HB 1301	KC Police & Civilian Police Employees	Clarifies statutory references	Neth	Retirement										
HB 1473	MOSERS	Requires a person becoming a member of the General Assembly for the first time on or after 1/1/15 to participate in a defined contribution retirement plan	Brattin											

Proposed Modifications to JCPER Governing Statutes Chapters 21 and 105

Personnel and actuarial assistance authorized--compensation, how paid.

21.557. The committee may employ such personnel and actuarial assistance as it deems necessary to carry out its duties and prepare required reports. The compensation of such personnel and the expenses of the committee shall be paid from [the] **monies appropriated to the committee or from the** joint contingent fund **as approved.** [or jointly from the senate and house contingent funds until an appropriation is made therefor.]

(L. 1983 S.B. 393 § 3)

Powers and duties of joint committee.

21.559. The committee shall:

- (1) Make a continuing study and analysis of all state and local government retirement systems;
- (2) Devise a standard reporting system to obtain data on each public employee retirement system that will provide information on each system's financial and actuarial status at least biennially;
- (3) Determine from its study and analysis the need for changes in statutory law;
- (4) Make any other recommendation to the general assembly necessary to provide adequate retirement benefits to state and local government employees within the ability of taxpayers to support their future costs.

(L. 1983 S.B. 393 § 4, A.L. 1985 H.B. 695)

Retirement systems, state and local to cooperate.

21.561. 1. All state and local public employee retirement systems shall cooperate with and assist the committee in the performance of its duties and shall make available all books, records and information requested.

2. If any state or local public employee retirement system does not comply with the committee's request for books, records, or information or does not cooperate and assist the committee as provided in subsection 1 of this section, then the committee may request the staff or board members of any state or local public employee retirement system to testify before the committee regarding non-compliance of this section.

~~2.~~ **3.** The committee may subpoena witnesses, take testimony under oath, and compel the production of records.

(L. 1983 S.B. 393 § 5)

**Cost-of-living increases in pension benefits, notice of to committee, when--
evidence of actuarial soundness, when.**

21.562. 1. [All state and local public employee retirement systems providing periodic cost-of-living increases in pension and retirement benefits paid to its retired officers and employees and spouses of deceased officers and employees prior to September 28, 1985, shall notify the joint committee on public employee retirement of such periodic cost-of-living increases within seven days after September 28, 1985.

2.] All state or local public employee retirement systems shall notify the committee within seven calendar days when the governing body thereof which determines the amount and type of plan benefits to be paid takes final action providing any new or additional payments **beyond the plan provisions of the prior plan year** of periodic cost-of-living increases in pension and retirement benefits for its retired officers and employees and spouses of deceased officers and employees.

2[3]. If so requested at any time by the committee, any state or local public employee retirement system providing such periodic cost-of-living increases shall provide satisfactory evidence of its actuarial soundness.

(L. 1985 H.B. 695)

Report, contents--submitted when.

21.563. The committee shall compile a full report of its activities for submission to the general assembly. The report shall be submitted not later than the **annual first quarterly meeting of the joint committee on public employee retirement** [fifteenth of January of] each year in which the general assembly convenes in regular session and shall include any recommendations which the committee may have for legislative action, as well as any recommendations to retirement system boards of management. The report shall also include an analysis and statement of the manner in which statutory provisions relating to public employee retirement programs are being executed.

(L. 1983 S.B. 393 § 6)

**Study by joint committee on public pensions, retirement and benefits--report to
general assembly, when.**

[21.564. The joint committee on public employee retirement shall conduct a study of pension, retirement and other benefits and the taxation thereof by the state of Missouri in relation to recent federal court decisions and shall report its findings and recommendations to the general assembly no later than the beginning of the second regular session of the eighty-fifth general assembly.]

(L. 1989 H.B. 674 § 3)

Definitions, retirement benefit changes.

105.660. The following words and phrases as used in sections 105.660 to 105.685, unless a different meaning is plainly required by the context, shall mean:

- (1) "Actuarial valuation", a mathematical process which determines plan financial condition and plan benefit;
- (2) "Actuary", an actuary (i) who is a member of the American Academy of Actuaries or who is an enrolled actuary under the Employee Retirement Income Security Act of 1974 and (ii) who is experienced in retirement plan financing;
- (3) "Board", the governing board or decision-making body of a plan that is authorized by law to administer the plan;
- (4) "Defined benefit plan", a plan providing a definite benefit formula for calculating retirement benefit amounts;
- (5) "Defined contribution plan", a plan in which the contributions are made to an individual retirement account for each employee;
- (6) "Funded ratio", the ratio of the actuarial value of assets over its actuarial accrued liability;
- (7) "Lump sum benefit plan", payment within one taxable year of the entire balance to the participant from a plan;
- (8) "Plan", any retirement system established by the state of Missouri or any political subdivision or instrumentality of the state for the purpose of providing plan benefits for elected or appointed public officials or employees of the state of Missouri or any political subdivision or instrumentality of the state;
- (9) "Plan benefit", the benefit amount payable from a plan together with any supplemental payments from public funds;
- (10) "Substantial proposed change", a proposed change in future plan benefits which would increase or decrease the employer or employee total contribution percent by at least one-quarter of one percent of active employee payroll, or would increase or decrease a plan benefit by five percent or more, or would materially affect the actuarial soundness of the plan. In testing for such one-quarter of one percent of payroll contribution increase, the proposed change in plan benefits shall be added to all actual changes in plan benefits since the last date that an actuarial valuation was prepared. **The closing or freezing of a current defined benefit plan would be considered a substantial proposed change only for the purposes of sections 105.665, 105.670, 105.675 and 105.685.**

(L. 1979 H.B. 130 § 1, A.L. 2007 S.B. 406)

Actuarial valuation performed at least biennially.

105.664. **1.** Each plan shall at least biennially prepare and have available as public information an actuarial valuation performed in compliance with [the recommended] **applicable** standards and guidelines as set forth by the governmental accounting standards board. Any plan currently performing valuations on a biennial basis making a substantial proposed change in benefits as defined in section 105.660 shall have a new actuarial valuation performed using the same methods and assumptions for the most recent periodic actuarial valuation.

2. An actuarial valuation performed in compliance with applicable governmental accounting standards board pronouncements shall be forwarded to the joint committee on public employee retirement no later than sixty calendar days after completion or adoption of such valuation.

(L. 2002 H.B. 1455)

Effective 7-11-02

Cost statement of proposed changes prepared by actuary--contents.

105.665. 1. The legislative body or committee thereof which determines the amount and type of plan benefits to be paid shall, before taking final action on any substantial proposed change in plan benefits, cause to be prepared a statement regarding the cost of such change.

2. The cost statement shall be prepared by an actuary using the methods used in preparing the most recent periodic actuarial valuation for the plan and shall, without limitation by enumeration, include the following:

(1) The level normal cost of plan benefits currently in effect, which cost is expressed **both in estimated annual dollars and** as a percent of active employee payroll;

(2) The contribution for unfunded accrued liabilities currently payable by the plan, which cost is expressed **both in estimated annual dollars and** as a percent of active employee payroll and shall be over a period not to exceed thirty years;

(3) The total contribution rate expressed **both in estimated annual dollars and** as a percent of active employee[s] payroll, which contribution rate shall be the total of the normal cost percent plus the contribution percent for unfunded accrued liabilities;

(4) A statement as to whether the legislative body is currently paying the total contribution rate as defined in subdivision (3) of this subsection;

(5) The plan's actuarial value of assets, market value of assets, actuarial accrued liability and funded ratio as defined in section 105.660 as of the most recent actuarial valuation;

(6) [(5)] The total post change contribution rate expressed both in estimated annual dollars and as a percent of active employee payroll [which would be sufficient to adequately fund the proposed change in benefits];

(7) A projection of at least 20 years of the current plan provisions compared to the proposed change from the proposed effective date of such change including the total contribution rate expressed both in estimated annual dollars and as a percent of active employee payroll, the actuarial value of assets, the market value of assets, the actuarial accrued liability and the funded ratio as defined in section 105.660;

(8[6]) A statement as to whether such additional contributions are mandated by the proposed change;

(9[7]) A statement as to whether or not the proposed change would in any way impair the ability of the plan to meet the obligations thereof in effect at the time the proposal is made;

(10[8]) All assumptions relied upon to evaluate the present financial condition of the plan and all assumptions relied upon to evaluate the impact of the proposed change upon the financial condition of the plan, which shall be those assumptions used in preparing the most recent periodic actuarial valuation for the plan, unless the nature of the proposed change is such that alternative assumptions are clearly warranted, and shall be made and stated with respect to at least the following:

(a) Investment return;

(b) Pay increase;

(c) Mortality of employees and officials, and other persons who may receive benefits under the plan;

(d) Withdrawal (turnover);

(e) Disability;

(f) Retirement ages;

(g) Change in active employee group size;

(11[9]) The actuary shall certify that in the actuary's opinion the assumptions used for the valuation produce results which, in the aggregate, are reasonable;

(12[10]) A description of the actuarial funding method used in preparing the valuation including a description of the method used and period applied in amortizing unfunded actuarial accrued liabilities;

(13[11]) The increase in the total contribution amount required to adequately fund the proposed change in benefits, expressed in annual dollars as determined by multiplying the increase in total contribution rate by the active employee annual payroll used for this valuation.

(L. 1979 H.B. 130 § 2, A.L. 1996 H.B. 1355, A.L. 2007 S.B. 406)

Board member education program required, curriculum--annual pension benefit statement required.

105.666. 1. Each plan shall, in conjunction with its staff and advisors, establish a board member education program, which shall be in effect on or after January 1, 2008. The curriculum shall include, at a minimum, education in the areas of duties and responsibilities of board members as trustees, ethics, governance process and procedures, pension plan design and administration of benefits, investments including but not limited to the fiduciary duties as defined under section 105.688, legal liability and risks associated with the administration of a plan, sunshine law requirements under chapter 610, actuarial principles and methods related to plan administration, and the role of staff and consultants in plan administration. Board members appointed or elected on a board on or after January 1, 2008, shall complete a board member education program designated to orient new board members in the areas described in this section within ninety days of becoming a new board member. Board members who have served one or more years shall attend at least **[two] a total of six hours of** continuing education programs each year in the areas described in this section.

2. Routine annual presentations by outside plan service providers shall not be used to satisfy board member education or continuing education program requirements contained in subsection 1 of this section. Such service providers may be utilized to perform education programs with such programs being separate and apart from routine annual presentations.

3. Plan governing body or staff shall maintain a record of board member education, including, but not limited to, date, time length, location, education material and any facilitator utilized. The record shall be signed and attested to by the attending board member or board chairman or designee. Such information shall be maintained for public record and disclosure for at least three years or until the expiration of such board member's term, whichever occurs first.

4. A board member who is knowingly not participating in the required education programs pursuant to this section may be removed from such board by a majority of the board members which shall result in a vacancy to be filled in accordance with plan provisions.

[2]5. Each plan shall, upon the request of any individual participant, provide an annual pension benefit statement which shall be written in a manner calculated to be understood by the average plan participant and may be delivered in written, electronic, or other appropriate form to the extent such form is reasonably accessible to each participant or beneficiary. Such pension benefit statement shall include, but not be limited to, accrued participant contributions to the plan, total benefits accrued, date first eligible for a normal retirement benefit, and projected benefit at normal retirement. Any plan failing to do so shall submit in writing to the joint committee on public employee retirement as to why the information may not be provided as requested.

(L. 2007 S.B. 406)

Cost statement available for inspection--effect of changes (general assembly).

105.670. When the general assembly is the legislative body responsible for authorizing a substantial proposed change in plan benefits, a prepared statement regarding the cost of such change shall be made available for its consideration prior to taking final action. Such statement of cost shall be prepared in accordance with section 105.665 and shall be available as public information for at least five legislative days before **third reading and** [final] passage by **each** [either] house. The speaker or president pro tem may refer such bill for reconsideration upon receipt of the actuary statement to the committee to which the bill was originally referred. The bill shall retain its place on the calendar as though it had not been recalled. The committee shall report the bill to the house or senate, respectively, within seven calendar days with its recommendations. If any additional substantial proposed change as defined in subdivision [(5)] **(10)** of section 105.660, in cost or benefits is made by either house or committee thereof, the actuary making the original cost statement shall amend the statement to reflect the additional features **prior to being truly agreed to and finally passed**. The plan shall make available to the actuary such information as is necessary to prepare such actuarial statement. The statement of cost shall be filed with the chief clerk of the Missouri house of representatives, the secretary of the senate, and with the joint committee on public employee retirement.

(L. 1979 H.B. 130 § 3, A.L. 1985 H.B. 695, A.L. 1987 H.B. 713, A.L. 1989 H.B. 674, A.L. 1996 H.B. 1355)

Plan deemed delinquent, when, effect of.

105.683. Any plan, other than a plan created under sections 169.010 to 169.141 or sections 169.600 to 169.715, whose actuary determines that the plan has a funded ratio below sixty percent and the political subdivision has failed to make one hundred percent of the actuarially required contribution payment for five successive plan years with a descending funded ratio for five successive plan years [after August 28, 2007], shall be deemed delinquent in the contribution payment and such delinquency in the contribution payment shall constitute a first lien on the funds of the political subdivision, and the board as defined under section 105.660 is authorized to compel payment by application for a writ of mandamus; and in addition, such delinquency in the contribution payment shall be certified by the board to the state treasurer and director of the department of revenue. Until such delinquency in the contribution payment, together with regular interest, is satisfied, the state treasurer and director of the department of revenue shall withhold twenty-five percent of the certified contribution deficiency from the total moneys due the political subdivision from the state.

(L. 2007 S.B. 406)

Benefit increases prohibited, when--amortization of unfunded actuarial accrued liabilities--accelerated contribution schedule required, when.

105.684. 1. Notwithstanding any law to the contrary, no plan shall adopt or implement any additional benefit increase, supplement, enhancement, lump sum benefit payments to participants, or cost-of-living adjustment beyond current plan provisions in effect prior to August 28, 2007 **which would, in aggregate with any other proposed plan provisions increase the plan's actuarial accrued liability when valued by an actuary using the same methods and**

assumptions as used in the most recent periodic valuation, unless the plan's actuary determines that the funded ratio of the most recent periodic actuarial valuation and prior to such adoption or implementation is at least eighty percent and will not be less than seventy-five percent after such adoption or implementation. **Methods and assumptions used in valuing such proposed change may be modified if the nature is such that alternative assumptions are clearly warranted.**

2. The unfunded actuarial accrued liabilities associated with benefit changes described in this section shall be amortized over a period not to exceed twenty years for purposes of determining the contributions associated with the adoption or implementation of any such benefit increase, supplement, or enhancement.

3. Any plan with a funded ratio below sixty percent shall have the actuary prepare an accelerated contribution schedule based on a descending amortization period for inclusion in the actuarial valuation.

4. Nothing in this section shall apply to any plan established under chapter 70 or chapter 476.

5. Nothing in this section shall prevent a plan from adopting and implementing any provision necessary to maintain a plan's status as a qualified trust pursuant to 26 U.S.C. 401(a).

(L. 2007 S.B. 406, A.L. 2013 H.B. 233)

105.686. All retirement plans defined under section 105.660, shall develop a procurement action plan for utilization of minority and women money managers, brokers and investment counselors. Such retirement systems shall report their progress annually to the joint committee on public employee retirement and the governor's minority advocacy commission.

Plan Responses to Proposal to amend Chapters 21 and 105

Plan Name	Plan Contact Information	Response/Feedback Summary
Hannibal Police & Fire Retirement Plan	Angel Vance, City Clerk 573-221-0111	<u>Section 105.666, RSMo</u> *Concerns with 3 hour education requirement within 90 days of Board appointment/election could put financial burden due to training expenses and lost work time. *Outside service providers, i.e., investment manager and actuary provide information beyond the routine reporting which is educational.
		<u>Section 105.660, RSMo</u> *Concern for breaking out one of the current criteria associated with a substantial proposed change from "increase or decrease the total contribution percent by at least one-quarter of one percent of active employee payroll" to such increase in either the employer or employee contribution".
Local Government Employees Retirement System (LAGERS)	Keith Hughes, Exec Secretary 573-636-9455	<u>Section 105.665, RSMo</u> *Concerns about including "annual dollars" in cost statement criteria because aggregate payroll changes and emphasis may be placed on the dollar about to be paid rather than the percent of payroll

Plan Responses to Proposal to amend Chapters 21 and 105

Plan Name	Plan Contact Information	Response/Feedback Summary
Kansas City Police Employee Retirement Systems	Jim Pyle, Executive Director 816-482-8138	<u>Section 105.660 & 105.664, RSMo</u> *Adds to definition of "Actuarial valuation" to be in compliance with GASB rather than the reference in Section 105.664.
		<u>Section 105.666, RSMo</u> *Proposes a total of 6 hours of education annually, rather than 2 programs at 3 hours each.
Missouri State Employees Retirement System (MOSERS)	Gary Findlay, Executive Director 573-632-6100	<u>Section 105.684, RSMo</u> *Benefit enhancements would be aggregated with any other proposed changes when determining a resulting liability increase.
		<u>Section 105.666, RSMo</u> *Suggests removing subsection 2 relative to routine annual presentations by outside service providers and Board education *Removes time length, education material and signature/attestation of education record.
		<u>Section 105.684, RSMo</u> *Modifies 80% benefit prohibition to any plan amendment whose provisions in total would increase the plan's actuarial accrued liability.

Plan Responses to Proposal to amend Chapters 21 and 105

Plan Name	Plan Contact Information	Response/Feedback Summary
MoDOT & Patrol Employees Retirement System (MPERS)	Scott Simon, Executive Director 573-298-6080	<hr/> Section 105.665, RSMo *Concerns associated with additional components of an actuarial cost statement relative to timeliness and increased cost and inhibited response time to fiscal notes.
		<hr/> Section 105.666, RSMo *Obtaining signatures relative to Board education may pose an administrative burden and may not be realized. Suggested to allow Board Chair or designee to signoff on such education attendance.
Prosecuting Attorneys' & Circuit Attorneys' Retirement System (PACARS)	Kent Lowry, Legal Counsel 573-636-8394	<hr/> Section 105.665, RSMo *This section, particularly sub sections 5 and 7, will substantially increase our actuarial services and cost. Since we are a small fund, we oppose changes to the statutes which have the effect of increasing our costs.
Public School Retirement System of the City of St. Louis (PSRSSTL)	Andrew Clark, Executive Director 314-534-7444	<hr/> Section 105.666, RSMo *Concerns with enforcing the current and proposed provisions. Board members are set against each other and puts staff in a precarious position. Board seeks to avoid confrontation under these provisions. Each Board member takes an oath of office binding them to their fiduciary duty and therefore this section is unnecessary.
St. Louis County Employees' Retirement Plan	Kirk McCarley, Personnel Director 314-615-5410	*Responded with no comments at this time.

Plan Responses to Proposal to amend Chapters 21 and 105

Plan Name	Plan Contact Information	Response/Feedback Summary
St. Louis Employees' Retirement System (SLERS)	Scott Harper, General Counsel 314-622-5739	<u>Section 105.666, RSMo</u> *Suggested to prohibit outside service provider presentations from meeting Board education requirement or to, at least, clarify that "client conferences are not educational conferences". *State how long education materials must be held. *Be clear when requirements are effective. *Consider mandatory removal of Board member not attending required conferences without good cause. *Consider defining terms in this section.
		<u>Section 105.684, RSMo</u> *Consider tying benefit change to "substantial proposed change"
Personal Response	Rick Boersma, Executive Officer 816-513-1904	<u>Section 105.692, RSMo</u> *Could be unconstitutional without a finding of past discrimination *Include "minority and women owned money managers, brokers..." *Consider exempting plans that do not directly engage brokers, etc.
		*Noted as personal opinion as an individual involved with plan administration *Opposes proposal and believes could increase plan expenses and impose additional recordkeeping burden

Sample Pension Trustee Training Requirements from Other States

For the Educational Training Program Working Group's reference, PRB Staff has compiled the following examples of pension trustee training requirements from states other than Texas. **Four states have extensive, statutorily-required training programs. Detailed information on these programs follows.**

Illinois ⁱ	Kentucky ⁱⁱ	Louisiana ⁱⁱⁱ	Massachusetts ^{iv}
<p><u>Trustees affected</u> Trustees of local fire and police pensions</p> <p><u>Basic Requirements</u> <i>New Trustee Training:</i> 32 hours <i>Continuing Education:</i></p> <ul style="list-style-type: none"> 16 hours continuing education annually 8 hours ethics training for all pension trustees annually <p><u>Required Content</u> <i>New Trustee Training:</i></p> <ul style="list-style-type: none"> Fiduciary duty Adjudication of claims Accounting/actuarial concepts Trustee ethics Open Meetings Act Freedom of Information Act 	<p><u>Trustees affected</u> Trustees of statewide systems for state and county employees</p> <p><u>Basic Requirements</u> (no specific hours) <i>New Trustee Training:</i></p> <ul style="list-style-type: none"> Initial training for new trustees <p><u>Continuing Education:</u></p> <ul style="list-style-type: none"> Annual continuing education for all trustees <p><u>Required Content</u> <i>New Trustee Training:</i></p> <ul style="list-style-type: none"> Benefits and administration Investment policies Laws and rules Actuarial and financial concepts <p><u>Continuing Education:</u> Administration, Benefits, Financing, and Investing</p>	<p><u>Trustees affected</u> Trustees of statewide systems for state and parochial employees</p> <p><u>Basic Requirements</u> <i>Continuing education:</i> 12 hours per year</p> <p><u>Required Content</u></p> <ul style="list-style-type: none"> Investments (8 hours) Actuarial science (2 hours) Laws and rules (1 hour) Fiduciary duty/ethics (1 hour) 	<p><u>Trustees affected</u> Trustees of state, county and local systems</p> <p><u>Basic Requirements</u> <i>Continuing education:</i> 18 hours per full board term (with at least 3 hours/year and no more than 9 hours/year). Board terms are 2 or 3 years.</p> <p><u>Required Content</u></p> <ul style="list-style-type: none"> Fiduciary responsibility, ethical conduct, and conflict of interest (9 hours) Other relevant topics (9 hours)

Illinois ⁱ	Kentucky ⁱⁱ	Louisiana ⁱⁱⁱ	Massachusetts ^{iv}
<p><u>Authorized Providers</u> Training facilities accredited and affiliated with a State of Illinois certified college or university</p> <p><u>Compliance</u> <i>Board service:</i> A board member who does not timely complete training is not eligible to serve unless the member completes training within 6 months.</p>	<p><u>Authorized Providers</u> No specific requirements in law</p> <p><u>Compliance</u> <i>Travel expenses:</i> Trustees can only receive per diems and travel expenses if initial training is completed within one year and annual continuing education is completed.</p>	<p><u>Authorized Providers</u> Training may be conducted by the staff of the respective retirement systems or by outside experts. Two or more systems may combine training.</p> <p><u>Compliance</u> <i>Travel expenses:</i> Trustees can only receive per diems and travel expenses once they have completed the fiduciary and ethics requirement and at least one hour each of investment, actuarial science, and legal education annually.</p> <p><i>Board service:</i> No new board member shall be permitted to vote on any matter until he/she has completed one hour of education in each of the four required areas.</p> <p><i>Reporting:</i> Board members self-report training hours to the relevant standing legislative committees each year.</p>	<p><u>Authorized Providers</u></p> <ul style="list-style-type: none"> ▪ 9 hours provided by state pension oversight commission; and ▪ 9 hours provided by national, state or local organizations certified by the commission <p><u>Compliance</u> <i>Board service:</i> Noncompliant board members can no longer serve out their terms.</p> <p><i>Reporting:</i> Members self-report training hours to the state oversight commission which tracks compliance.</p>

PRB staff also identified the following, more basic trustee training requirements and policies in other states. This list includes requirements found in systems' enabling statutes and board policies, but is not exhaustive. Other requirements, such as state ethics training requirements for all public officials, may exist in general law.

State	Policies Found In	Trustee Training Policies
New Trustee Training and Continuing Education for all Trustees		
California	CALSTRS Board Policy ^v	New board member orientation: <ul style="list-style-type: none"> Encouraged to attend before first board meeting as voting member. Content includes system overview, ethics, fiduciary duty, laws and rules, actuarial information, etc. Continuing education: <ul style="list-style-type: none"> Members are encouraged to attend a conference and in-house training each year. The General Counsel arranges for a fiduciary education training session annually. Members must complete state ethics training every two years.
	CALPERS Board Policy ^{vi}	Continuing education: <ul style="list-style-type: none"> Members are required to attend fiduciary training, including on-line training, as approved by the Board President, annually.
Continuing Education Only		
Florida	Florida Retirement System Commission Statute ^{vii}	Continuing education: <ul style="list-style-type: none"> The Department of Management Services is required to provide newly appointed members of the State Retirement Commission with timely and appropriate training designed to acquaint them with the commission's responsibilities.
Maryland	Maryland State Retirement and Pension System Board Policy ^{viii}	Continuing education: <ul style="list-style-type: none"> Board members are required to complete at least 8 hours of training annually. Content must include investment and fiduciary training, including training on fiduciary conduct and board governance, within the state. Training must be conducted by an entity not affiliated with any external investment manager.

Montana	Montana Public Employees' Retirement Board Policy ^{ix}	Continuing education: <ul style="list-style-type: none"> The Board is required to provide trustees with 2 training experiences per year based on the identified training needs of each trustee. First priority should be given to training related to: fiduciary duty, investments, ethics, public information, and training provided by NASRA and NAGDCA. Second priority is given to federal and state laws and technology.
Rhode Island	Rhode Island Employees' Retirement System Statute ^x	Continuing education: <ul style="list-style-type: none"> The Board is required to establish mandatory continuing education for members of the board.
Ethics Training Only		
Ohio	Police and Fire Pension Fund Statute ^{xi}	Ethics training: <ul style="list-style-type: none"> The Board is required to provide ethics training periodically to members and employees of the board.

ⁱ Sections 1-109.3 and 1-113.18, Illinois Pensions Code.

ⁱⁱ Sections 61.645 and 161.250, Kentucky Revised Statutes.

ⁱⁱⁱ Section 11:185, Louisiana Revised Statutes.

^{iv} Ch. 32, Sec. 20(7), Massachusetts General Laws.

^v California Teachers' Retirement Board. (September 2013). Policy Manual. Retrieved from http://www.calstrs.com/sites/main/files/file-attachments/z_2013_0816_board_policy_manual_update_september_2013_v2.pdf

^{vi} California Public Employees' Retirement System Board of Administration. (February 2012). Governance Policy. Retrieved from <http://www.calpers.ca.gov/eip-docs/about/board/02152012-board-governance.pdf>

^{vii} Section 121.24(3), Florida Statute.

^{viii} Maryland State Retirement and Pension System. Governance Policies. Retrieved from http://www.sra.state.md.us/Agency/Board/Downloads/BOT_Policies.pdf

^{ix} Montana Public Employees' Retirement Board. (January 2010). Board Policy- Training. Retrieved from <http://mpera.mt.gov/docs/BdPolicyProc02.pdf>

^x Section 36-8-4.1, Rhode Island General Laws.

^{xi} Section 742.103, Ohio Revised Code.



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February 5, 2013

Mr. Jim Pyle
Executive Director
Police Retirement System of Kansas City, Missouri
9701 Marion Park Drive, B
Kansas City, MO 64137

Re: Cost Study of the Impact of Senate Bill 215 and House Bill 418 on the Police Retirement System of Kansas City, Missouri

Dear Jim:

At your request, we have prepared a cost study to measure the impact of the revised pension plan design for the Police Retirement System of Kansas City, Missouri (System) in Senate Bill 215 (SB 215) and House Bill 418 (HB 418). The proposed changes for current members and new hires (those becoming members on or after August 28, 2013), along with increased contributions by the City and members, will strengthen the System's long term funding and improve the System's ability to meet its obligations in future years. The changes under SB 215/HB 418 result in an increasing funded ratio that rises to nearly 90% over the projection period, assuming all actuarial assumptions are met in the future. Without these changes, the funded ratio of the System is projected to decline to around 50% at the end of the projection period.

Provisions of SB 215/HB 418

The proposed pension changes in SB 215/HB 418 impact the benefits of current retirees, current actives, and future actives (new hires). In addition, in recent years the City has contributed a fixed contribution rate. As part of the pension changes in SB 215/HB 418 the City will make the full actuarial contribution rate in future years. This is a critical component in ensuring the long term financial health of the System.

Presently, the benefits received by retirees and beneficiaries include a supplemental benefit of \$420 per month. Under SB 215/HB 418, only \$220 per month of the supplemental benefit will be paid from the System for current retirees and beneficiaries and for current active members when they retire. The remaining \$200 per month will be paid directly by the City outside the System. As a result the amount of the supplemental benefit to be funded by the System reduces to \$220 per month, compared to \$420 per month in the current benefit structure. This change in benefits for current members results in an immediate reduction in the unfunded actuarial accrued liability and a decrease in the normal cost rate.

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The Board of Trustees currently has the authority to grant a cost of living adjustment (COLA) to retirees and beneficiaries depending upon the actuarial condition of the System. By law, the maximum adjustment each year is 3% of the base pension (the benefit amount initially paid at retirement). The valuation has historically assumed future ad hoc COLAs of 3% each year. For purposes of the actuarial projections for SB 215/HB 418, it was assumed that the average COLA in future years would be a 2.5% COLA. This was assumed for both current and future retirees. New hires are eligible for a simple COLA, but it does not start until the date the member would have worked 32 years. Several additional changes apply to the benefit structure for those becoming members on or after August 28, 2013. The following table compares the current key plan provisions and the proposed changes under SB 215/HB 418.

Current Plan Provisions		SB 215/HB 418 Provisions	
		<u>Current Actives</u>	<u>Future Hires (Tier II)</u>
Service Retirement	Age 60 with 10 Years Service or 25 Years of Service. Mandatory retirement at 32 Years or Age 65 if later.	No change except mandatory retirement at 35 Years or Age 65 if later.	Age 60 with 15 Years of Service or 27 Years of Service. Mandatory retirement at 35 Years
Benefit Formula	2.5% times years of service, not to exceed 75%	2.5% times years of service, not to exceed 80%	2.5% times years of service, not to exceed 80%
Final Compensation	Average of highest two years	No change	Average of highest three years
Form of Payment	Joint and 80% survivor benefit, if married. Life only if single.	No change	Joint and 50% survivor benefit, if married, Life only if single.
Cost of Living	At Board's discretion based on actuarial condition of the system, but not to exceed a 3% simple COLA.	No change	At Board's discretion based on actuarial condition of System. If the member retires with less than 32 years of service, the COLA is deferred to point at which the member would have reached 32 years of service.
Supplemental Benefit	\$420 per month	\$220 per month*	None
Member Contributions	10.55%	11.55%	11.55%
City Contributions	19.70% of covered payroll	Actuarial contribution rate as determined by the System's actuary	Actuarial contribution rate as determined by the System's actuary

*Also applies to current retirees and beneficiaries.



Actuarial Assumptions

When discussions about the retirement system's funding began, the most recent actuarial valuation was the April 30, 2011 valuation. As a result, that is the actuarial valuation that was used to analyze various proposals related to improving the System's long term funding. The City also requested that a consistent investment return assumption of 7.5% be used in the plan design studies for all four retirement systems that cover the City's employees. As a result, the April 30, 2011 valuation was revised to reflect a 7.5% investment return assumption rather than the valuation rate of 7.75% and projections of different plan designs were based on that assumption. The remaining actuarial assumptions that were used in the actuarial projections of funded status are the same as those used in the April 30, 2011 actuarial valuation with the exception of the cost of living adjustment (COLA) assumption. Part of the revised plan design is for the cost of living adjustments granted by the Board to average 2.5% over the next thirty years. As a result, the 3.0% COLA assumption used in the valuation was changed for the SB 215/HB 418 projections to reflect a 2.5% cost of living adjustment assumption.

	<u>Original Valuation Actuarial Assumptions</u>	<u>New Actuarial Assumptions Used in Cost Studies</u>
Assumed Rate of Return	7.75%	7.50%
Assumed Ad Hoc Cost of Living Adjustment	3.0%	2.5% for SB 215/HB 418*
Amortization Period	Closed 24 Years	Open 30 Years

* See paragraph above for further clarification on the cost of living adjustment assumption.

Please see the Appendix, attached to this letter, for a detailed listing of all of the assumptions used in the various projections attached to this letter. In our opinion, the assumptions used in the actuarial projections produce results which, in the aggregate, are reasonable. However, because not all of the assumptions will unfold exactly as expected, actual results will differ from the projections. To the extent that actual experience deviates significantly from the assumptions, results could be significantly better or significantly worse than indicated in this study

Actuarial Methods

The entry age normal actuarial cost method, which is the cost method used in the annual actuarial valuation, was also used in the actuarial projections of the current plan and SB 215/HB 418. Although the System uses an asset smoothing method in the regular valuation, for purposes of all of the actuarial projections, the pure market value of assets was used as asset smoothing has little impact on results of a thirty year projection. Please see the Appendix for a full explanation of the actuarial methods used in the actuarial projections.

Amortization of Unfunded Actuarial Liability

In the annual actuarial valuation, a separate amortization base is created each year based on the difference between the actual unfunded actuarial liability and the expected unfunded actuarial liability. That base is then amortized over a closed 24 year period, with payments determined as a level percent of payroll. For purposes of plan design analysis projections, an open thirty year amortization period was used. The unfunded actuarial liability payment was determined as a level percent of payroll. Please see the Appendix for more detailed information on the amortization of the unfunded actuarial liability.



Actuarial Analysis

Because a different set of assumptions other than the valuation assumptions was used for the actuarial projections in the plan design study, a number of projection results are provided with this letter to illustrate the impact of the assumption changes and to enable a more direct comparison of different results. In addition, the City has been contributing at a fixed contribution rate, but will move to contributing the full actuarial contribution rate under SB 215/HB 418. Therefore an exhibit is provided to illustrate the impact of the City continuing the current practice compared to contributing the full actuarial contribution rate.

The following exhibits are attached to this letter. Each provides detailed information on the projected valuation results in future years including funded ratio, unfunded actuarial accrued liability, normal cost rate, unfunded actuarial contribution rate, total actuarial contribution rate, member contribution rate, and employer actuarial required contribution rate (ARC), assuming all actuarial assumptions are met (whichever set of assumptions is used to develop the liabilities). The exhibits are:

- Exhibit A: Current Plan Provisions, Original Assumptions, City Contributes 19.7%
- Exhibit B: Current Plan Provisions, Original Assumptions, City Contributes ARC
- Exhibit C: Current Plan Provisions, New Assumptions, City Contributes ARC
- Exhibit D: New Plan Provisions (SB 215/HB 418), Original Assumptions, City Contributes ARC
- Exhibit E: New Plan Provisions (SB 215/HB 418), New Assumptions, City Contributes ARC

For purposes of the description of assumptions used in the above exhibits, the set of assumptions and methods are as follows:

	Original Assumptions	New Assumptions
Investment Return	7.75%	7.5%
Amortization Policy		
Period	24 years	30 years
Open or Closed	Closed	Open
One base or multiple	Multiple bases	One base
Level dollar or Level Percent of Payroll	Level percent of payroll	Level percent of payroll
Cost of Living	3.0%	2.5% for SB 215/HB 418
Asset value	Market value	Market value
Actuarial Cost Method	Entry age	Entry age

The changes to the benefit and contribution provisions of the System for current members (retirees and current actives) will have an immediate impact on the valuation results upon implementation, reducing both the unfunded actuarial liability and the normal cost rate. The following table summarizes the estimated impact of the changes in the benefits and contributions in SB 215/HB 418 on the April 30, 2013 actuarial valuation, which sets the contribution rate for FY 2015.



<u>Impact on Employer ARC Rate</u>			
	<u>Current Plan Provisions</u>		SB 215/HB 418 New Assumptions ³
	Original Assumptions ¹	New Assumptions ²	
FY 2015 Contribution			
Total Normal Cost Rate	25.29%	27.01%	25.01%
Member Contribution Rate	(10.55%)	(10.55%)	(11.55%)
UAAL Contribution Rate	24.46%	16.26%	10.97%)
Expenses	<u>0.40%</u>	<u>0.40%</u>	<u>0.40%</u>
Employer Contribution Rate	39.61%	33.12%	24.83%
UAAL (\$M)	\$256.1	\$292.4	\$198.2
Funded Ratio on market value of assets	75.3%	72.7%	79.9%

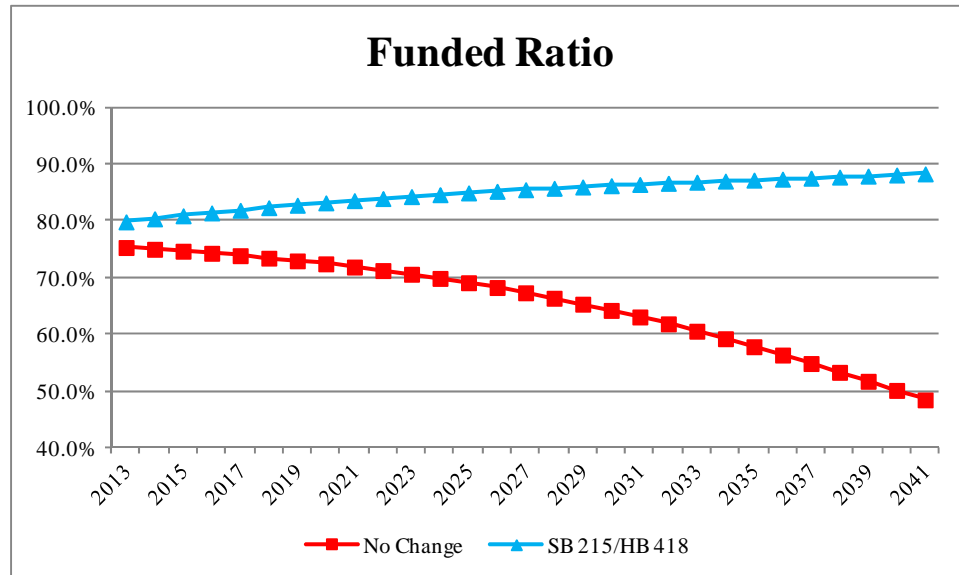
¹ See Exhibit B

² See Exhibit C

³ See Exhibit E

The projected April 30, 2013 valuation results provide a reasonable estimate of the short term impact of SB 215/HB 418. However, the plan changes for new hires will unfold over time as current active members leave covered employment and are replaced by new employees who are covered by the new benefit structure (Tier II). Therefore, in order to analyze the impact of the proposed plan design for new hires on the System's long term funding, actuarial projections of future valuation results are necessary. These projections are shown in the attached Exhibits A through E. Each exhibit shows the Normal Cost Rate, the Unfunded Actuarial Accrued Liability (UAAL) Contribution Rate, the Total Contribution Rate, the Employer Contribution Rate and the dollar amount of Employer Contributions which are required under R.S.Mo.§105.665. The long term cost impact of SB 215/HB 418, using the new set of assumptions, is a decrease in the total employer contributions of \$421 million over the projection period (\$1,438 million in Exhibit C less \$1,017 million in Exhibit E). As the projections illustrate, the normal cost rate declines by 4.80% of payroll from 28.61% to 23.81%. With the additional 1.0% contribution by members, the long term effect on the employer normal cost rate is a total decrease of 5.80%. The decrease in the normal cost rate will emerge over time as new employees replace current actives.

In all but Exhibit A, the City is assumed to contribute the full Actuarial Required Contribution (ARC), which is the sum of the normal cost rate, the payment on the unfunded actuarial accrued liability, and the expense load of 0.40%. Under Missouri statutes, this cost study is required to disclose whether the employer has been contributing the total actuarial contribution rate. For many years, the employer (City of Kansas City, Missouri) has contributed a fixed contribution rate of 19.7%. If this practice continues and no changes are made to the current plan provisions, the actuarial projections in Exhibit A illustrate that the funded ratio of the System is expected to decline to around 50%. The provisions of SB 215/HB 418 require the City to pay the full amount of the Actuarial Required Contribution (ARC) which is the sum of the employer normal cost rate, expense contribution rate and the UAAL contribution. This change, along with increased contributions from the members and changes in the benefit structure for current and future members, results in the funded ratio reaching nearly 90% in 2041 (see following graph):



The projections in the attached exhibits assume that all actuarial assumptions, including the applicable assumed investment return, are met in the future. To the extent the assumptions are not met in the future, the actuarial projections are expected to change. The projections are sensitive to the assumptions used, particularly the investment return assumption. Further analysis can be provided upon request if it is deemed to be necessary or helpful. Please note that the dollar amounts of employer contributions shown in the exhibits are future nominal dollar amounts, calculated using the projected payroll in future years. Given the length of the projection period, future payroll amounts can grow to be large numbers.

Disclaimers, Caveats, and Limitations

The numerical charts that comprise this study are based on projections using the data from the April 30, 2011 actuarial valuation and the actuarial assumptions used in the 2011 valuation, unless noted otherwise in this letter or on the attached exhibits. A projection model, based on 2011 valuation results, was prepared by the System's actuary, Cavanaugh Macdonald Consulting, LLC and was used to estimate future valuation results. Significant items are noted below:

- The investment return in all future years is assumed to be the assumed rate of return (either 7.75% or 7.5% depending on the set of assumptions being used) on a market value basis, unless otherwise indicated.
- All demographic assumptions regarding mortality, disability, retirement, salary increases, and termination of employment are assumed to hold true in the future. Please note that the actuarial assumption assumes that mortality will improve in the future (i.e. people will live longer).
- Changes in the plan design that impact first eligibility for retirement as well as the maximum benefit are expected to impact retirement behavior in the future. This required that an adjustment be made to the current retirement rates. To the extent members retire differently than assumed, as a result of the change in plan provisions, the cost of SB 215/HB 418 will also change.
- The number of active members covered by the System in the future is assumed to remain level (neither growth nor decline in the number of active members). As active members leave covered employment, they are assumed to be replaced by new employees who have a similar demographic profile as recent new hires.
- Changes in the plan provisions, employee contribution rate and the date the employer starts to contribute the full actuarial contribution rate are May 1, 2013. If the effective date of the changes is different it may have an impact on the results of the projections.



- Plan provisions for current retirees, current actives and future actives are modified as disclosed earlier in this letter. There are no other benefit changes reflected in future years.
- The actuarial cost method, the entry age normal cost method, was used in the projections. The pure market value of assets was used in all projections and the amortization method used was the level percent of payroll method. The amortization period was an open thirty year period.
- We relied upon the membership data provided by the System for the actuarial valuation. The numerical results depend on the integrity of this information. If there are material inaccuracies in the data, the results presented herein may be different and the projections may need to be revised.

Models are designed to identify anticipated trends and to compare various scenarios rather than predicting some future state of events. The projections are based on the System's estimated financial status on April 30, 2011, and project future events using one set of assumptions out of a range of many reasonable possibilities. A different set of assumptions would lead to different results. The projections do not predict the System's financial condition or its ability to pay benefits in the future and do not provide any guarantee of future financial soundness of the System. Over time, a defined benefit plan's total cost will depend on a number of factors, including the amount of benefits paid, the number of people paid benefits, the duration of the benefit payments, plan expenses, and the amount of earnings on assets invested to pay benefits. These amounts and other variables are uncertain and unknowable at the time the projections were prepared. Because not all of the assumptions will unfold exactly as expected, actual results will differ from the projections. To the extent that actual experience deviates significantly from the assumptions, results could be significantly better or significantly worse than indicated in this study.

If any of the information disclosed in this letter is inaccurate, or in any way incomplete, it may impact the reliability of our results. If you have any concerns, please contact us immediately.

We, Patrice A. Beckham, FSA and Brent A. Banister, FSA, are consulting actuaries with Cavanaugh Macdonald Consulting, LLC. We are members of the American Academy of Actuaries, Fellows of the Society of Actuaries, and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

If you have any questions or additional information is needed, please let us know. We are available to provide additional analysis or explanation.

Sincerely,

A handwritten signature in black ink that reads 'Patrice Beckham' in a cursive script.

Patrice A. Beckham, FSA, EA, FCA, MAAA
Principal and Consulting Actuary

A handwritten signature in black ink that reads 'Brent A. Banister' in a cursive script.

Brent A. Banister, PhD, FSA, EA, FCA, MAAA
Chief Pension Actuary



APPENDIX

Summary of Actuarial Assumptions and Methods

Actuarial Cost Method

The actuarial cost method is a procedure for allocating the actuarial present value of pension benefits and expenses to time periods. The method used for the valuation is known as the Entry Age Normal actuarial cost method, and has the following characteristics.

- (i) The annual normal costs for each individual active member are sufficient to accumulate the value of the member's pension at time of retirement.
- (ii) Each annual normal cost is a constant percentage of the member's year-by-year projected covered compensation.

The Entry Age Normal actuarial cost method allocates the actuarial present value of each member's projected benefits on a level basis over the member's assumed pensionable compensation rates between the entry age of the member and the assumed exit ages. The portion of the actuarial present value allocated to the valuation year is called the normal cost. The portion of the actuarial present value not provided for by the actuarial present value of future normal costs is called actuarial accrued liability. Deducting actuarial assets from the actuarial accrued liability determines the unfunded actuarial accrued liability or (surplus).

Asset Valuation Method

Under the asset valuation method, the difference between the actual and assumed investment return on the market value of assets is recognized evenly over a five year period. No corridor is used with the new method. The change to a new asset smoothing method was implemented by resetting the actuarial value of assets at April 30, 2011 equal to the market value of assets.

For all projections (both current plan and SB 215/HB 418), the market value of assets was used.

Amortization of Unfunded Actuarial Accrued Liability

In the actuarial valuation, the difference in the actual and expected UAAL is set up as a separate base each year, which is amortized over a closed 24 year period. Payments are calculated as a level percent of payroll, assuming future increases of 4.0% per year. In past years, the City has contributed a fixed contribution rate of 19.70% rather than the actuarial contribution rate so the amortization policy has had no real impact on the City's contributions.

For projections for the current plan and SB 215/HB 418, where the City is assumed to contribute the actuarial required contribution (ARC), the UAAL was amortized over an open 30 year period with payments that are calculated as a level percent of payroll, assuming future increases of 4.0% per year.



Actuarial Assumptions

Investment return: **Original Assumptions:** 7.75% per year, compounded annually
New Assumptions: 7.50% per year, compounded annually.

Pay increase assumption: Rates for sample years of service are shown below.

<u>Years of Service</u>	<u>Annual Rate of Pay Increase</u>		
	<u>General Wage Growth</u>	<u>Merit and Longevity</u>	<u>Total</u>
0	4.0%	5.75%	9.75%
1	4.0%	5.50%	9.50%
2	4.0%	4.50%	8.50%
3	4.0%	4.00%	8.00%
4	4.0%	4.00%	8.00%
5	4.0%	4.00%	8.00%
10	4.0%	3.50%	7.50%
15	4.0%	0.00%	4.00%
20	4.0%	0.00%	4.00%
25	4.0%	0.00%	4.00%

Price inflation: 3.0% per year, compounded annually.

Active member payroll growth: 4.0% per year, compounded annually.

Mortality Tables:

Healthy Retirees: RP-2000 Healthy Annuitant Table using Scale AA to model future mortality improvement.

Disabled Retirees: RP-2000 Healthy Annuitant Table set forward 5 years using Scale AA to model future mortality improvement.

Actives: RP-2000 Employee Table using Scale AA to model future mortality improvement.

Rates of termination from active membership:

<u>Sample Ages</u>	<u>% of Active Members Terminating Within Next Year</u>	
	<u>Male</u>	<u>Female</u>
25	5.8%	6.3%
30	3.8%	5.0%
35	2.4%	3.5%
40	1.6%	1.6%
45	1.1%	0.5%
50	0.6%	0.0%



The rates do not apply to members eligible to retire and do not include separation on account of death or disability. All vested members are assumed to leave their contribution with the System and receive a deferred benefit.

Rates of Disability:

<u>Sample Ages</u>	<u>% of Active Members Becoming Disabled Within Next Year</u>	
	<u>Male</u>	<u>Female</u>
30	0.062%	0.134%
35	0.312%	0.672%
40	0.416%	0.896%
45	0.437%	0.941%
50	0.759%	1.635%
55	1.456%	3.136%
60	2.579%	5.555%

55% of disabilities are assumed to be duty related

Rates of Retirement:

<u>Active Members Retiring Within Next Year</u>			
<u>Current Plan</u>		<u>SB 215/HB 418</u>	
<u>Years of Service</u>	<u>Percent Retiring</u>	<u>Years of Service</u>	<u>Percent Retiring</u>
25	25%	27	20%
26	25%	28	20%
27	25%	29	20%
28	25%	30	20%
29	25%	31	20%
30	35%	32	35%
31	55%	33	30%
32	100%	34	30%
		35	100%

Current Plan: Inactive vested members are assumed to retire at age 55.

SB 215/HB 418: Inactive vested members are assumed to retire at age 60 (Tier II).



Miscellaneous and Technical Assumptions

Marriage Assumption:

85% of males and 55% of females are assumed to be married for purposes of death-in-service benefits and death-after-retirement benefits. Males are assumed to be 3 years older than their spouses. Actual reported data is utilized for retirees and beneficiaries.

Pay Increase Timing:

Assumed to occur at the start of the fiscal year.

Pay Annualization:

Reported pays for members with less than 1 year of service were annualized for valuation purposes.

Decrement Timing:

Decrements of all types are assumed to occur mid-year.

Eligibility Testing:

Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year at the start of the year in which the decrement is assumed to occur.

Benefit Service:

Service calculated to the nearest month, as of the decrement date, is used to determine the amount of benefit payable.

Child Beneficiaries:

None assumed.

Other:

Turnover decrement does not operate during retirement eligibility.

Form of Payment:

The assumed normal form of payment is an 80% joint and survivor annuity, if married (50% for those becoming members after August 28, 2013). Otherwise, a single life annuity.

Administrative Expense:

0.40% of payroll each year. Administrative expenses beyond this allocation and all investment expenses are assumed to be funded by investment return in excess of the actuarial assumed rate of return.

Cost of Living Adjustment:

Current Plan: It was assumed the Retirement Board will grant the full 3% cost of living adjustment each year.

SB 215/HB 418: It was assumed the Retirement Board will grant a 2.5% cost of living adjustment each year.



EXHIBIT A

Police Retirement System of Kansas City, Missouri Current Plan Provisions, Original Assumptions Employer Contributes 19.70% of Payroll (dollar amounts in millions)

Valuation as of April 30,	Compensation at Valuation	Actuarial Accrued Liability (AAL)	Market Value of Assets (MVA)	Unfunded AAL(UAAL)	Funded Ratio Using MVA	UAAL Contribution Rate	Normal Cost Rate	Total Contribution Rate*	Member Contribution Rate	Employer Contribution Rate**	Employer Contribution	Actuarial Employer Contribution Rate	Actuarial Employer Contribution
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
2013	\$ 94.6	\$ 1,038.3	\$ 782.2	\$ 256.1	75.3%	24.46%	25.29%	50.16%	10.55%	19.70%	\$ 18.6	38.11%	\$ 36.1
2014	97.7	1,088.3	816.5	271.8	75.0%	25.91%	25.36%	51.67%	10.55%	19.70%	19.2	39.61%	38.7
2015	100.9	1,139.9	851.4	288.5	74.7%	27.49%	25.43%	53.33%	10.55%	19.70%	19.9	41.12%	41.5
2016	104.0	1,193.2	886.8	306.4	74.3%	29.21%	25.50%	55.11%	10.55%	19.70%	20.5	42.78%	44.5
2017	107.5	1,248.3	922.6	325.7	73.9%	30.99%	25.59%	56.98%	10.55%	19.70%	21.2	44.56%	47.9
2018	111.1	1,305.5	959.0	346.5	73.5%	32.90%	25.66%	58.95%	10.55%	19.70%	21.9	46.43%	51.6
2019	114.7	1,364.7	995.9	368.8	73.0%	34.99%	25.74%	61.13%	10.55%	19.70%	22.6	48.40%	55.5
2020	118.5	1,425.8	1,033.1	392.7	72.5%	36.80%	25.83%	63.04%	10.55%	19.70%	23.4	50.58%	60.0
2021	122.3	1,489.0	1,070.5	418.5	71.9%	31.89%	25.91%	58.20%	10.55%	19.70%	24.1	52.49%	64.2
2022	126.3	1,554.1	1,107.8	446.3	71.3%	37.51%	26.00%	63.91%	10.55%	19.70%	24.9	47.65%	60.2
2023	130.3	1,620.8	1,144.6	476.2	70.6%	41.14%	26.10%	67.65%	10.55%	19.70%	25.7	53.36%	69.5
2024	134.6	1,688.9	1,180.5	508.4	69.9%	44.61%	26.18%	71.18%	10.55%	19.70%	26.5	57.10%	76.9
2025	139.0	1,758.2	1,215.2	542.9	69.1%	45.88%	26.27%	72.55%	10.55%	19.70%	27.4	60.63%	84.3
2026	143.8	1,828.7	1,248.5	580.2	68.3%	44.56%	26.36%	71.32%	10.55%	19.70%	28.3	62.00%	89.1
2027	148.6	1,900.6	1,280.3	620.3	67.4%	47.25%	26.46%	74.10%	10.55%	19.70%	29.3	60.77%	90.3
2028	154.0	1,974.1	1,310.6	663.5	66.4%	45.98%	26.53%	72.92%	10.55%	19.70%	30.3	63.55%	97.9
2029	159.5	2,049.2	1,339.2	710.0	65.4%	45.63%	26.61%	72.63%	10.55%	19.70%	31.4	62.37%	99.5
2030	165.5	2,125.8	1,365.8	760.0	64.2%	36.28%	26.67%	63.35%	10.55%	19.70%	32.6	62.08%	102.8
2031	172.1	2,204.8	1,390.9	813.9	63.1%	41.32%	26.71%	68.43%	10.55%	19.70%	33.9	52.80%	90.9
2032	178.9	2,286.0	1,414.3	871.7	61.9%	43.22%	26.75%	70.37%	10.55%	19.70%	35.2	57.88%	103.6
2033	185.9	2,369.5	1,435.7	933.8	60.6%	51.39%	26.80%	78.59%	10.55%	19.70%	36.6	59.82%	111.2
2034	193.3	2,455.5	1,454.8	1,000.6	59.2%	50.94%	26.83%	78.17%	10.55%	19.70%	38.1	68.04%	131.5
2035	201.3	2,544.1	1,471.6	1,072.5	57.8%	53.17%	26.85%	80.42%	10.55%	19.70%	39.6	67.62%	136.1
2036	209.7	2,635.9	1,486.3	1,149.6	56.4%	54.82%	26.86%	82.08%	10.55%	19.70%	41.3	69.87%	146.5
2037	219.1	2,732.1	1,499.4	1,232.7	54.9%	56.56%	26.86%	83.82%	10.55%	19.70%	43.2	71.53%	156.7
2038	228.5	2,833.1	1,511.2	1,321.8	53.3%	58.37%	26.86%	85.63%	10.55%	19.70%	45.0	73.27%	167.4
2039	238.1	2,938.8	1,521.2	1,417.5	51.8%	60.23%	26.86%	87.49%	10.55%	19.70%	46.9	75.08%	178.8
2040	248.1	3,049.2	1,528.9	1,520.3	50.1%	62.14%	26.85%	89.39%	10.55%	19.70%	48.9	76.94%	190.8
2041	258.3	3,164.8	1,534.0	1,630.8	48.5%	0.00%	26.85%	27.25%	10.55%	19.70%	50.9	78.84%	203.6
											\$ 907.4		

* Total Contribution Rate includes 0.40% for expenses.

** Actuarial valuation results set the contribution rate for the following fiscal year.

This exhibit is an attachment to a letter that contains important information and explanations regarding the numbers shown. Therefore, the exhibit should only be considered with the accompanying letter from Cavanaugh Macdonald dated February 5, 2013. Projection assumes no actuarial gains and losses (i.e. all actuarial assumptions are met, including a 7.75% return on market value of assets and a 3% COLA).



EXHIBIT B

Police Retirement System of Kansas City, Missouri Current Plan Provisions, Original Assumptions Employer Contributes Actuarial Required Contribution (ARC) (dollar amounts in millions)

Valuation as of April 30,	Compensation at Valuation	Actuarial Accrued Liability (AAL)	Market Value of Assets (MVA)	Unfunded AAL(UAAL)	Funded Ratio Using MVA	UAAL Contribution Rate	Normal Cost Rate	Total Contribution Rate*	Member Contribution Rate	Employer Contribution Rate**	Employer Contribution
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2013	\$ 94.6	\$ 1,038.3	\$ 782.2	\$ 256.1	75.3%	24.46%	25.29%	50.16%	10.55%	38.11%	\$ 36.1
2014	97.7	1,088.3	834.6	253.7	76.7%	23.46%	25.36%	49.21%	10.55%	39.61%	38.7
2015	100.9	1,139.9	891.1	248.8	78.2%	23.66%	25.43%	49.50%	10.55%	38.66%	39.0
2016	104.0	1,193.2	949.4	243.8	79.6%	23.89%	25.50%	49.80%	10.55%	38.95%	40.5
2017	107.5	1,248.3	1,010.8	237.5	81.0%	24.08%	25.59%	50.07%	10.55%	39.25%	42.2
2018	111.1	1,305.5	1,075.9	229.6	82.4%	24.26%	25.66%	50.31%	10.55%	39.52%	43.9
2019	114.7	1,364.7	1,144.7	220.0	83.9%	24.47%	25.74%	50.61%	10.55%	39.76%	45.6
2020	118.5	1,425.8	1,217.3	208.5	85.4%	24.27%	25.83%	50.50%	10.55%	40.06%	47.5
2021	122.3	1,489.0	1,294.0	195.0	86.9%	17.16%	25.91%	43.47%	10.55%	39.95%	48.9
2022	126.3	1,554.1	1,374.4	179.7	88.4%	20.47%	26.00%	46.88%	10.55%	32.92%	41.6
2023	130.3	1,620.8	1,449.2	171.6	89.4%	22.55%	26.10%	49.05%	10.55%	36.33%	47.3
2024	134.6	1,688.9	1,531.2	157.7	90.7%	23.37%	26.18%	49.95%	10.55%	38.50%	51.8
2025	139.0	1,758.2	1,619.4	138.8	92.1%	21.87%	26.27%	48.54%	10.55%	39.40%	54.8
2026	143.8	1,828.7	1,712.4	116.3	93.6%	17.59%	26.36%	44.35%	10.55%	37.99%	54.6
2027	148.6	1,900.6	1,807.5	93.2	95.1%	17.36%	26.46%	44.22%	10.55%	33.80%	50.3
2028	154.0	1,974.1	1,900.3	73.8	96.3%	13.49%	26.53%	40.42%	10.55%	33.67%	51.9
2029	159.5	2,049.2	1,996.9	52.2	97.5%	10.03%	26.61%	37.04%	10.55%	29.87%	47.6
2030	165.5	2,125.8	2,091.4	34.5	98.4%	-1.99%	26.67%	25.08%	10.55%	26.49%	43.9
2031	172.1	2,204.8	2,184.4	20.4	99.1%	0.41%	26.71%	27.52%	10.55%	14.53%	25.0
2032	178.9	2,286.0	2,260.0	26.0	98.9%	0.86%	26.75%	28.01%	10.55%	16.97%	30.4
2033	185.9	2,369.5	2,341.9	27.6	98.8%	6.22%	26.80%	33.41%	10.55%	17.46%	32.4
2034	193.3	2,455.5	2,426.9	28.5	98.8%	3.12%	26.83%	30.34%	10.55%	22.86%	44.2
2035	201.3	2,544.1	2,525.4	18.7	99.3%	1.80%	26.85%	29.05%	10.55%	19.79%	39.8
2036	209.7	2,635.9	2,621.9	14.0	99.5%	0.56%	26.86%	27.83%	10.55%	18.50%	38.8
2037	219.1	2,732.1	2,720.5	11.6	99.6%	0.62%	26.86%	27.88%	10.55%	17.28%	37.8
2038	228.5	2,833.1	2,821.4	11.7	99.6%	0.60%	26.86%	27.86%	10.55%	17.33%	39.6
2039	238.1	2,938.8	2,927.3	11.4	99.6%	0.58%	26.86%	27.84%	10.55%	17.31%	41.2
2040	248.1	3,049.2	3,038.1	11.1	99.6%	0.55%	26.85%	27.80%	10.55%	17.29%	42.9
2041	258.3	3,164.8	3,153.9	10.9	99.7%	0.00%	26.85%	27.25%	10.55%	17.25%	44.6
											\$ 1,242.8

* Total Contribution Rate includes 0.40% for expenses.

** Actuarial valuation results set the contribution rate for the following fiscal year.

This exhibit is an attachment to a letter that contains important information and explanations regarding the numbers shown. Therefore, the exhibit should only be considered with the accompanying letter from Cavanaugh Macdonald dated February 5, 2013. Projection assumes no actuarial gains and losses (i.e. all actuarial assumptions are met, including a 7.75% return on market value of assets and a 3% COLA).



EXHIBIT C

Police Retirement System of Kansas City, Missouri Current Plan Provisions, New Assumptions Employer Contributes Actuarial Required Contribution (ARC) (dollar amounts in millions)

Valuation as of April 30,	Compensation at Valuation	Actuarial Accrued Liability (AAL)	Market Value of Assets (MVA)	Unfunded AAL(UAAL)	Funded Ratio Using MVA	UAAL Contribution Rate	Normal Cost Rate	Total Contribution Rate*	Member Contribution Rate	Employer Contribution Rate**	Employer Contribution
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2013	\$ 94.6	\$ 1,070.8	\$ 778.4	\$ 292.4	72.7%	16.26%	27.01%	43.67%	10.55%	33.28%	\$ 31.5
2014	97.7	1,122.2	823.9	298.3	73.4%	16.06%	27.08%	43.54%	10.55%	33.12%	32.4
2015	100.9	1,175.3	870.9	304.3	74.1%	15.87%	27.16%	43.43%	10.55%	32.99%	33.3
2016	104.0	1,230.1	919.6	310.5	74.8%	15.70%	27.23%	43.33%	10.55%	32.88%	34.2
2017	107.5	1,286.7	969.8	316.8	75.4%	15.51%	27.32%	43.23%	10.55%	32.78%	35.2
2018	111.1	1,345.4	1,022.1	323.3	76.0%	15.31%	27.39%	43.09%	10.55%	32.68%	36.3
2019	114.7	1,406.3	1,076.4	329.9	76.5%	15.13%	27.48%	43.00%	10.55%	32.54%	37.3
2020	118.5	1,469.1	1,132.5	336.6	77.1%	14.94%	27.57%	42.91%	10.55%	32.45%	38.5
2021	122.3	1,533.9	1,190.4	343.5	77.6%	14.77%	27.65%	42.83%	10.55%	32.36%	39.6
2022	126.3	1,600.8	1,250.2	350.6	78.1%	14.61%	27.75%	42.76%	10.55%	32.28%	40.8
2023	130.3	1,669.2	1,311.4	357.8	78.6%	14.45%	27.85%	42.70%	10.55%	32.21%	42.0
2024	134.6	1,739.1	1,373.9	365.2	79.0%	14.27%	27.93%	42.60%	10.55%	32.15%	43.3
2025	139.0	1,810.2	1,437.6	372.6	79.4%	14.10%	28.02%	42.52%	10.55%	32.05%	44.5
2026	143.8	1,882.6	1,502.4	380.2	79.8%	13.91%	28.12%	42.43%	10.55%	31.97%	46.0
2027	148.6	1,956.5	1,568.6	387.9	80.2%	13.73%	28.22%	42.35%	10.55%	31.88%	47.4
2028	154.0	2,031.9	1,636.1	395.9	80.5%	13.52%	28.29%	42.22%	10.55%	31.80%	49.0
2029	159.5	2,109.1	1,705.2	403.9	80.8%	13.32%	28.37%	42.09%	10.55%	31.67%	50.5
2030	165.5	2,187.9	1,775.8	412.1	81.2%	13.09%	28.43%	41.93%	10.55%	31.54%	52.2
2031	172.1	2,269.0	1,848.6	420.4	81.5%	12.84%	28.48%	41.72%	10.55%	31.38%	54.0
2032	178.9	2,352.5	1,923.8	428.6	81.8%	12.59%	28.52%	41.52%	10.55%	31.17%	55.8
2033	185.9	2,438.4	2,001.3	437.1	82.1%	12.37%	28.56%	41.33%	10.55%	30.97%	57.6
2034	193.3	2,526.8	2,081.1	445.7	82.4%	12.12%	28.59%	41.12%	10.55%	30.78%	59.5
2035	201.3	2,618.0	2,163.5	454.5	82.6%	11.87%	28.62%	40.89%	10.55%	30.57%	61.5
2036	209.7	2,712.5	2,249.1	463.3	82.9%	11.62%	28.63%	40.65%	10.55%	30.34%	63.6
2037	219.1	2,811.5	2,339.0	472.4	83.2%	11.33%	28.63%	40.36%	10.55%	30.10%	65.9
2038	228.5	2,915.4	2,433.8	481.5	83.5%	11.08%	28.62%	40.10%	10.55%	29.81%	68.1
2039	238.1	3,024.1	2,533.3	490.8	83.8%	10.83%	28.62%	39.85%	10.55%	29.55%	70.4
2040	248.1	3,137.8	2,637.5	500.2	84.1%	10.60%	28.62%	39.62%	10.55%	29.30%	72.7
2041	258.3	3,256.6	2,746.8	509.9	84.3%	10.35%	28.61%	39.37%	10.55%	29.07%	75.1
											\$ 1,438.0

* Total Contribution Rate includes 0.40% for expenses.

** Actuarial valuation results set the contribution rate for the following fiscal year.

This exhibit is an attachment to a letter that contains important information and explanations regarding the numbers shown. Therefore, the exhibit should only be considered with the accompanying letter from Cavanaugh Macdonald dated February 5, 2013. Projection assumes no actuarial gains and losses (i.e. all actuarial assumptions are met, including a 7.5% return on market value of assets and a 3% COLA).



EXHIBIT D

Police Retirement System of Kansas City, Missouri Senate Bill 215/House Bill 418, Original Assumptions Employer Contributes Actuarial Required Contribution (ARC) (dollar amounts in millions)

Valuation as of April 30,	Compensation at Valuation	Actuarial Accrued Liability (AAL)	Market Value of Assets (MVA)	Unfunded AAL(UAAL)	Funded Ratio Using MVA	UAAL Contribution Rate	Normal Cost Rate	Total Contribution Rate*	Member Contribution Rate	Employer Contribution Rate**	Employer Contribution
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2013	\$ 95.0	\$ 953.9	\$ 789.2	\$ 164.7	82.7%	9.14%	23.56%	33.09%	11.55%	21.69%	\$ 20.6
2014	98.3	999.6	831.3	168.3	83.2%	9.02%	23.51%	32.93%	11.55%	21.54%	21.2
2015	101.6	1,047.1	875.1	172.0	83.6%	8.92%	23.47%	32.79%	11.55%	21.38%	21.7
2016	104.9	1,096.3	920.6	175.7	84.0%	8.83%	23.43%	32.65%	11.55%	21.24%	22.3
2017	108.4	1,147.2	967.7	179.6	84.3%	8.73%	23.40%	32.53%	11.55%	21.10%	22.9
2018	112.1	1,200.1	1,016.5	183.6	84.7%	8.63%	23.37%	32.40%	11.55%	20.98%	23.5
2019	115.7	1,254.7	1,067.1	187.6	85.0%	8.54%	23.34%	32.29%	11.55%	20.85%	24.1
2020	119.6	1,311.1	1,119.4	191.8	85.4%	8.45%	23.33%	32.18%	11.55%	20.74%	24.8
2021	123.3	1,369.1	1,173.1	196.0	85.7%	8.37%	23.30%	32.07%	11.55%	20.63%	25.4
2022	127.3	1,428.6	1,228.4	200.3	86.0%	8.29%	23.27%	31.96%	11.55%	20.52%	26.1
2023	131.3	1,489.4	1,284.7	204.7	86.3%	8.22%	23.23%	31.85%	11.55%	20.41%	26.8
2024	135.6	1,551.3	1,342.1	209.2	86.5%	8.12%	23.18%	31.70%	11.55%	20.30%	27.5
2025	140.0	1,613.9	1,400.3	213.6	86.8%	8.04%	23.13%	31.57%	11.55%	20.15%	28.2
2026	144.6	1,677.1	1,459.0	218.2	87.0%	7.95%	23.09%	31.44%	11.55%	20.02%	29.0
2027	149.5	1,741.2	1,518.3	222.9	87.2%	7.85%	23.06%	31.32%	11.55%	19.89%	29.7
2028	154.8	1,806.1	1,578.3	227.7	87.4%	7.75%	23.03%	31.17%	11.55%	19.77%	30.6
2029	160.3	1,871.8	1,639.2	232.6	87.6%	7.64%	22.98%	31.02%	11.55%	19.62%	31.5
2030	166.2	1,938.4	1,700.8	237.6	87.7%	7.52%	22.94%	30.86%	11.55%	19.47%	32.4
2031	172.6	2,005.8	1,763.3	242.5	87.9%	7.39%	22.89%	30.68%	11.55%	19.31%	33.3
2032	179.2	2,074.4	1,826.8	247.5	88.1%	7.27%	22.83%	30.50%	11.55%	19.13%	34.3
2033	186.0	2,143.8	1,891.2	252.6	88.2%	7.15%	22.77%	30.32%	11.55%	18.95%	35.2
2034	193.4	2,214.5	1,956.7	257.8	88.4%	7.01%	22.72%	30.13%	11.55%	18.77%	36.3
2035	201.3	2,286.5	2,023.5	263.1	88.5%	6.88%	22.67%	29.95%	11.55%	18.58%	37.4
2036	209.7	2,360.4	2,092.0	268.5	88.6%	6.74%	22.63%	29.77%	11.55%	18.40%	38.6
2037	218.8	2,437.0	2,162.9	274.1	88.8%	6.59%	22.59%	29.58%	11.55%	18.22%	39.9
2038	228.6	2,516.8	2,237.1	279.7	88.9%	6.44%	22.56%	29.39%	11.55%	18.03%	41.2
2039	238.9	2,600.7	2,315.4	285.3	89.0%	6.28%	22.52%	29.20%	11.55%	17.84%	42.6
2040	249.4	2,688.9	2,397.9	291.1	89.2%	6.14%	22.49%	29.03%	11.55%	17.65%	44.0
2041	260.1	2,781.7	2,484.8	296.9	89.3%	5.98%	22.47%	28.84%	11.55%	17.48%	45.5
											\$ 896.6

* Total Contribution Rate includes 0.40% for expenses.

** Actuarial valuation results set the contribution rate for the following fiscal year.

This exhibit is an attachment to a letter that contains important information and explanations regarding the numbers shown. Therefore, the exhibit should only be considered with the accompanying letter from Cavanaugh Macdonald dated February 5, 2013. Projection assumes no actuarial gains and losses (i.e. all actuarial assumptions are met, including a 7.75% return on market value of assets and a 2.5% COLA).



EXHIBIT E

Police Retirement System of Kansas City, Missouri Senate Bill 215/House Bill 418, New Assumptions Employer Contributes Actuarial Required Contribution (ARC) (dollar amounts in millions)

Valuation as of April 30,	Compensation at Valuation	Actuarial Accrued Liability (AAL)	Market Value of Assets (MVA)	Unfunded AAL(UAAL)	Funded Ratio Using MVA	UAAL Contribution Rate	Normal Cost Rate	Total Contribution Rate*	Member Contribution Rate	Employer Contribution Rate**	Employer Contribution
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2013	\$ 95.0	\$ 983.7	\$ 785.5	\$ 198.2	79.9%	10.97%	25.01%	36.38%	11.55%	25.03%	\$ 23.8
2014	98.3	1,030.7	828.6	202.1	80.4%	10.81%	24.95%	36.16%	11.55%	24.83%	24.4
2015	101.6	1,079.5	873.5	206.0	80.9%	10.66%	24.91%	35.97%	11.55%	24.61%	25.0
2016	104.9	1,130.1	920.1	210.0	81.4%	10.52%	24.86%	35.79%	11.55%	24.42%	25.6
2017	108.4	1,182.5	968.3	214.1	81.9%	10.38%	24.84%	35.62%	11.55%	24.24%	26.3
2018	112.1	1,236.7	1,018.3	218.4	82.3%	10.24%	24.80%	35.44%	11.55%	24.07%	27.0
2019	115.7	1,292.8	1,070.2	222.6	82.8%	10.11%	24.77%	35.28%	11.55%	23.89%	27.6
2020	119.6	1,350.7	1,123.7	227.0	83.2%	9.98%	24.75%	35.13%	11.55%	23.73%	28.4
2021	123.3	1,410.2	1,178.7	231.5	83.6%	9.87%	24.71%	34.98%	11.55%	23.58%	29.1
2022	127.3	1,471.2	1,235.3	236.0	84.0%	9.75%	24.67%	34.82%	11.55%	23.43%	29.8
2023	131.3	1,533.5	1,292.9	240.6	84.3%	9.64%	24.64%	34.67%	11.55%	23.27%	30.5
2024	135.6	1,597.0	1,351.7	245.3	84.6%	9.50%	24.58%	34.48%	11.55%	23.12%	31.4
2025	140.0	1,661.2	1,411.2	249.9	85.0%	9.38%	24.52%	34.31%	11.55%	22.93%	32.1
2026	144.6	1,726.0	1,471.3	254.7	85.2%	9.25%	24.48%	34.13%	11.55%	22.76%	32.9
2027	149.5	1,791.6	1,532.1	259.5	85.5%	9.12%	24.45%	33.97%	11.55%	22.58%	33.8
2028	154.8	1,858.2	1,593.6	264.5	85.8%	8.98%	24.41%	33.78%	11.55%	22.42%	34.7
2029	160.3	1,925.6	1,656.1	269.6	86.0%	8.84%	24.35%	33.59%	11.55%	22.23%	35.6
2030	166.2	1,993.9	1,719.2	274.7	86.2%	8.68%	24.31%	33.39%	11.55%	22.04%	36.6
2031	172.6	2,063.1	1,783.3	279.8	86.4%	8.51%	24.26%	33.17%	11.55%	21.84%	37.7
2032	179.2	2,133.4	1,848.6	284.9	86.6%	8.34%	24.19%	32.94%	11.55%	21.62%	38.7
2033	186.0	2,204.8	1,914.7	290.0	86.8%	8.19%	24.13%	32.72%	11.55%	21.39%	39.8
2034	193.4	2,277.4	1,982.0	295.3	87.0%	8.02%	24.08%	32.49%	11.55%	21.17%	40.9
2035	201.3	2,351.4	2,050.7	300.7	87.2%	7.84%	24.02%	32.27%	11.55%	20.94%	42.1
2036	209.7	2,427.4	2,121.2	306.2	87.4%	7.67%	23.98%	32.05%	11.55%	20.72%	43.4
2037	218.8	2,506.1	2,194.3	311.8	87.6%	7.48%	23.94%	31.82%	11.55%	20.50%	44.9
2038	228.6	2,588.2	2,270.7	317.5	87.7%	7.29%	23.90%	31.59%	11.55%	20.27%	46.3
2039	238.9	2,674.5	2,351.3	323.2	87.9%	7.10%	23.86%	31.36%	11.55%	20.04%	47.9
2040	249.4	2,765.2	2,436.3	328.9	88.1%	6.92%	23.83%	31.15%	11.55%	19.81%	49.4
2041	260.1	2,860.6	2,525.7	334.8	88.3%	6.74%	23.81%	30.95%	11.55%	19.60%	51.0
											\$ 1,016.8

* Total Contribution Rate includes 0.40% for expenses.

** Actuarial valuation results set the contribution rate for the following fiscal year.

This exhibit is an attachment to a letter that contains important information and explanations regarding the numbers shown. Therefore, the exhibit should only be considered with the accompanying letter from Cavanaugh Macdonald dated February 5, 2013. Projection assumes no actuarial gains and losses (i.e. all actuarial assumptions are met, including a 7.5% return on market value of assets and a 2.5% COLA).

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SEP 25 2013

BY:

September 23, 2013

The Retirement Board

Funding Effect of Changing the Cost of Living Provisions of the Pension Plan

Dear Board Members:

According to Missouri Revised Statute 105.665: 1. The legislative body or committee thereof which determines the amount and type of plan benefits to be paid shall, before taking final action on any substantial proposed change in plan benefits, cause to be prepared a statement regarding the cost of such change.

The following cost statement employs the methods used in preparing the most recent periodic actuarial valuation for the plan:

- (1) The level normal cost of plan benefits currently in effect, expressed as a percent of active employee payroll is 5.9%
- (2) The contribution for unfunded accrued liabilities currently payable by the plan, expressed as a percent of active employee payroll over a period of 30 years is 4.3%;
- (3) The total contribution rate expressed as a percent of active employees payroll, which contribution rate shall be the total of the normal cost percent plus the contribution percent for unfunded accrued liabilities adjusted with interest is 11.0%;
- (4) The legislative body is currently paying the total contribution rate as defined in subdivision (3) of this subsection;
- (5) The proposed change would increase the cost of retirement benefits to approximately 12.5% of active employee payroll.
- (6) There is no change to mandated contribution provisions.
- (7) The proposed change would not immediately impair the ability of the plan to meet its obligations with respect to all benefits offered by the Plan thereof in effect at the time the proposal is made;

(8) All assumptions relied upon to evaluate the present financial condition of the plan and all assumptions relied upon to evaluate the impact of the proposed change upon the financial condition of the plan, which are those assumptions used in preparing the most recent periodic actuarial valuation for the plan, are:

(a) Investment return of 7.00%;

(b) Pay increases of 4.0%;

(c) Mortality of employees and officials, and other persons who may receive benefits under the plan is the RP 2000 male/female mortality table;

(d) Withdrawal (turnover) is based on Table T-8 of the Actuary's Pension Handbook. Sample rates are as follows:

Sample Ages	Terminating
25	19.5%
30	17.5%
40	7.5%
50	4.8%
55	2.1%
60	2.1%

(e) Disability is based on past experience of the Plan. Sample rates are as follows:

Annual Rates of Disability

Age	Rate
25	0.025%
30	0.05
40	0.10
50	0.30
55	0.40
60	0.60

(f) Retirement Assumption: 50% of participants not eligible for 80 and out" are assumed to retire at 65. 25% per year are assumed to retire each year thereafter with 100% retirement assumed at age 70. 25% of participants who are eligible to retire early with 80 points, are assumed to retire upon attaining 80 points are assumed to retire upon attaining 80 points, with 10% per year thereafter and 100% retirement assumed at age 65.

(9) As the Plan actuary I certify that the assumptions used for the valuation produce results which, in the aggregate, are reasonable;

Normal Cost. Normal cost and the allocation of actuarial present values between service rendered before and after the valuation date were determined using an individual entry-age actuarial cost method having the following characteristics:

Each annual normal cost is a constant percentage of the Member's year-by-year projected covered pay.

(11) The proposed change would increase the cost of retirement benefits. We expect the total recommended contribution rate to increase from the current amount of \$7.1M to approximately \$8.2M as a result of this change.

2014 Annual Report



Joint Committee on Public Employee Retirement

Quarterly Reports

2013 Third Quarter

<u>Plan Name</u>	<u>Beg. Market Value</u>	<u>End. Market Value</u>	<u>ROR 12 mos.</u>	<u>ROR 36 mos.</u>	<u>ROR 60 mos.</u>
Afton FPD Retirement Plan	\$5,665,407	\$6,225,677	13.32% (Net)	9.64% (Net)	9.59% (Net)
Antonia FPD Pension Plan	\$1,662,647	\$1,709,458	unavailable% (Gro	unavailable% (Gro	unavailable% (Gro
Arnold Police Pension Plan	\$8,613,702	\$9,005,346	12.2% (Gross)	1.6% (Gross)	8.5% (Gross)
Bi-state Dev Agency Division 788, A.T.U.	\$98,584,420	\$103,536,543	N/A% (Net)	N/A% (Net)	N/A% (Net)
Bi-state Development Agency Local 2 I.B.E.W.	\$2,530,569	\$2,690,813	N/A% (Net)	N/A% (Net)	N/A% (Net)
Bi-state Division 788 Clerical Unit ATU	\$5,126,869	\$5,365,533	N/A% (Net)	N/A% (Net)	N/A% (Net)
Bi-state Salaried Employees	\$49,759,333	\$52,153,015	N/A% (Net)	N/A% (Net)	N/A% (Net)
Black Jack FPD Retirement Plan	\$9,499,447	\$10,247,654	1% (Net)	1% (Net)	1% (Net)
Bothwell Regional Health Center Retirement Plan	\$42,516,607	\$44,492,122	10.9% (Net)	10.3% (Net)	8.7% (Net)
Brentwood Police & Firemen's Retirement Fund	\$28,108,287	\$29,544,709	N/A% (Gross)	N/A% (Gross)	N/A% (Gross)
Bridgeton Employees Retirement Plan	\$23,078,689	\$23,859,809	13.06% (Gross)	10.66% (Gross)	7.38% (Gross)
Carthage Policemen's & Firemen's Pension Plan	\$5,871,134	\$6,054,635	8.08% (Net)	9.14% (Net)	4.67% (Net)
Cedar Hill Fire Protection District Length of Service Awards Program	\$64,061	\$64,619	N/A% (Gross)	N/A% (Gross)	N/A% (Gross)
Clayton Non-uniformed Employee Pension Plan	\$12,235,722	\$12,578,080	13.55% (Gross)	11.08% (Gross)	8.48% (Gross)
Clayton Uniformed Employees Pension Plan	\$33,493,067	\$34,571,575	12.72% (Gross)	11.06% (Gross)	8.91% (Gross)
Columbia Firemens' Retirement Plan	\$99,777,063	\$104,359,551	9.74% (Net)	7.80% (Net)	6.88% (Net)
Columbia Police Retirement Plan	\$99,777,063	\$104,359,551	9.74% (Net)	7.80% (Net)	6.88% (Net)
County Employees Retirement Fund	\$373,889,000	\$393,388,000	15.1% (Gross)	11.2% (Gross)	9.8% (Gross)
Creve Coeur FPD Retirement Plan	\$9,317,185	\$9,698,525	n/a% (Gross)	n/a% (Gross)	n/a% (Gross)
Eureka FPD Retirement Plan	\$8,508,265	\$8,658,410	1% (Net)	1% (Net)	1% (Net)
Fenton FPD Retirement Plan	\$22,545,763	\$23,571,844	12.05% (Net)	8.36% (Net)	6.47% (Net)
Firefighter's Retirement Plan of the City of St. Louis	\$186,650	\$1,505,601	na% (Gross)	na% (Gross)	na% (Gross)
Florissant Valley FPD Retirement Plan	\$20,510,297	\$21,147,818	n/a% (Net)	n/a% (Net)	n/a% (Net)

<u>Plan Name</u>	<u>Beg. Market Value</u>	<u>End. Market Value</u>	<u>ROR 12 mos.</u>	<u>ROR 36 mos.</u>	<u>ROR 60 mos.</u>
Glendale Pension Plan	\$4,922,234	\$5,058,696	12.56% (Gross)	10.14% (Gross)	8.36% (Gross)
Hannibal Police & Fire Retirement Plan	\$11,742,286	\$12,954,020	10.5% (Gross)	0% (Gross)	43.3% (Gross)
Hazelwood Retirement Plan	\$30,118,191	\$31,397,431	25.94% (Net)	16.07% (Net)	11.33% (Net)
High Ridge Fire Protection District Pension Plan	\$6,307,006	\$6,618,615	11.29% (Net)	9.34% (Net)	11.85% (Net)
Jackson County Employees Pension Plan	\$208,468,354	\$216,890,479	15.6% (Gross)	11.1% (Gross)	8.8% (Gross)
Joplin Police & Fire Pension Plan	\$30,894,479	\$32,375,200	8.14% (Net)	6.92% (Net)	7.53% (Net)
Kansas City Civilian Police Employees' Retirement System	\$106,119,000	\$110,130,000	8.97% (Gross)	7.74% (Gross)	6.73% (Gross)
Kansas City Police Retirement System	\$701,946,000	\$725,505,000	9.35% (Gross)	7.9% (Gross)	6.9% (Gross)
KC Area Transportation Authority Salaried Employees Pension Plan	\$14,434,724	\$14,822,723	12.79% (Gross)	10.22% (Gross)	7.98% (Gross)
KC Trans. Auth. Union Employees Pension Plan	\$38,744,591	\$39,866,334	12.43% (Net)	9.64% (Net)	8.75% (Net)
Ladue Non-uniformed Employees Retirement Plan	\$3,903,452	\$4,028,118	10.68% (Net)	8.5% (Net)	7.92% (Net)
Ladue Police & Fire Pension Plan	\$25,817,053	\$26,559,665	10.75% (Net)	8.55% (Net)	8.03% (Net)
LAGERS Staff Retirement Plan	\$7,415,391	\$7,754,865	14.79% (Net)	9.95% (Net)	7.90% (Net)
Little River Drainage Dist Retirement Plan	\$1,140,396	\$1,181,279	3.12% (Net)	3.77% (Net)	3.07% (Net)
Local Government Employees Retirement System	\$5,288,403,395	\$5,554,077,658	14.19% (Net)	11.78% (Net)	10.01% (Net)
Maplewood Police & Fire Retirement Fund	\$13,702,923	\$14,103,581	16.44% (Gross)	13.38% (Gross)	10.05% (Gross)
Metro St. Louis Sewer Dist Employees Pension Plan	\$228,396,494	\$234,273,240	8.7% (Net)	8.3% (Net)	7.8% (Net)
Metro West FPD Retirement Plan	\$34,846,890	\$36,735,248	9.49% (Net)	6.97% (Net)	5.97% (Net)
Missouri Higher Education Loan Authority Pension Plan	\$32,391,104	\$34,464,054	n/a% (Net)	n/a% (Net)	n/a% (Net)
Missouri State Employees Retirement System	\$8,082,512,187	\$8,315,440,909	9.15% (Net)	9.51% (Net)	8.31% (Net)
MoDOT & Highway Patrol Employees' Retirement System	\$1,674,921,460	\$1,728,165,957	13.62% (Net)	11.04% (Net)	7.17% (Net)
North Kansas City Hospital Retirement Plan	\$220,084,401	\$225,039,434	11.95% (Net)	9.98% (Net)	8.76% (Net)
North Kansas City Policemen's & Firemen's Retirement Fund	\$42,875,587	\$44,258,805	12.9% (Gross)	10.5% (Gross)	4.8% (Gross)
Pattonville-Bridgeton FPD Retirement Plan	\$25,067,588	\$26,360,846	25.33% (Net)	9.85% (Net)	8.89% (Net)
Prosecuting Attorneys' Retirement System	\$31,894,356	\$33,242,544	7.52% (Net)	6.80% (Net)	6.83% (Net)
Public Education Employees' Retirement System	\$3,297,836,171	\$3,422,227,647	12.4% (Net)	10.0% (Net)	7.7% (Net)

Please be aware information provided in this report may contain unaudited data.

1/21/2014

<u>Plan Name</u>	<u>Beg. Market Value</u>	<u>End. Market Value</u>	<u>ROR 12 mos.</u>	<u>ROR 36 mos.</u>	<u>ROR 60 mos.</u>
Public School Retirement System	\$30,176,804,594	\$31,125,185,743	12.8% (Net)	10.5% (Net)	7.9% (Net)
Raytown Policemen's Retirement Fund	\$9,917,019	\$10,183,971	15.17% (Gross)	8.45% (Gross)	0.00% (Gross)
Rock Community FPD Retirement Plan	\$11,240,174	\$11,732,623	14.26% (Net)	10.29% (Net)	8.89% (Net)
Saline Valley Fire Protection District Retirement Plan	\$1,620,604	\$1,714,067	12.98% (Net)	8.22% (Net)	12.69% (Net)
Sedalia Firemen's Retirement Fund	\$6,663,357	\$6,774	11.5% (Gross)	29.5% (Gross)	33.6% (Gross)
Sedalia Police Retirement Fund	\$3,118,001	\$3,150,945	5.09% (Gross)	7.24% (Gross)	0% (Gross)
Sheriff's Retirement System	\$33,425,567	\$34,326,290	16.449% (Gross)	10.843% (Gross)	8.3% (Gross)
Springfield Police & Fire Retirement Fund	\$243,848,544	\$260,338,355	11.26% (Net)	9.68% (Net)	7.29% (Net)
St. Joseph Policemen's Pension Fund	\$31,703,760	\$32,907,127	10.5% (Gross)	29.8% (Gross)	42.9% (Gross)
St. Louis County Employees Retirement Plan	\$525,938,164	\$557,885,999	15.24% (Gross)	10.98% (Gross)	9.13% (Gross)
St. Louis County Library Dist Empl Pension Plan	\$37,556,260	\$38,804,216	9.98% (Net)	7.77% (Net)	7.67% (Net)
St. Louis Employees Retirement System	\$701,397,659	\$729,578,560	13.65% (Gross)	10.93% (Gross)	8.12% (Gross)
St. Louis Firemen's Retirement System	\$454,528,004	\$470,661,725	16.01% (Gross)	11.78% (Gross)	8.17% (Gross)
St. Louis Public School Retirement System	\$877,159,409	\$896,750,039	11.7% (Net)	9.6% (Net)	8.2% (Net)
Valley Park FPD Retirement Plan	\$4,212,492	\$4,430,628	12.13% (Net)	N/A% (Net)	N/A% (Net)
	<u>\$54,245,360,568</u>	<u>\$56,089,978,298</u>			