



Employees Retirement System of the City of St. Louis

Actuarial Valuation as of October 1, 2015

Produced by Cheiron

January 2016

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LETTER OF TRANSMITTAL

January 27, 2016

Board of Pension Trustees
Employees Retirement System of the City of St. Louis
1114 Market Street, Suite 900
St. Louis, Missouri 63101

Dear Members of the Board:

At your request, we have conducted an actuarial valuation of the Employees Retirement System of the City of St. Louis as of October 1, 2015. The valuation is organized as follows:

- In Section I **Board Summary**, we describe the purpose of an actuarial valuation and summarize the key results found in this valuation.
- The **Main Body** of the report presents details on the System's:
 - Section II - Assets
 - Section III - Liabilities
 - Section IV - Contributions
 - Section V - Accounting Statement Information
- In the **Appendices**, we conclude our report with detailed information describing the System's membership (Appendix A), actuarial assumptions and methods employed (Appendix B), and a summary of pertinent plan provisions (Appendix C).

The results of this report rely on future System experience conforming to the underlying assumptions. To the extent that actual System experience deviates from the underlying assumptions, the results will vary accordingly. The actuarial assumptions were adopted by the Board based on our recommendations from the experience study performed for the period October 1, 2009 through September 30, 2014.

The purpose of this report is to present the annual actuarial valuation of the Employees Retirement System of the City of St. Louis. This report is for the use of the Board and its auditors in preparing financial reports in accordance with applicable law and accounting requirements. The report does not include calculations related to GASB Statements No. 67 and 68, which are provided in a separate report.

In preparing our report, we relied on information supplied by the Employees Retirement System of the City of St. Louis staff. This information includes, but is not limited to, plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standards of Practice #23.

To the best of our knowledge, this report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice as set out by the Actuarial Standards Board. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.

This actuarial report was prepared solely for the Employees Retirement System of the City of St. Louis for the purposes described herein. Other users of this report are not intended users as defined in the Actuarial Standards of Practice and Cheiron assumes no duty or liability to any other user.

Sincerely,
Cheiron



Stephen McElhaney, FSA, FCA, MAAA
Principal Consulting Actuary



Michael J. Noble, FSA, FCA, MAAA
Principal Consulting Actuary

EMPLOYEES RETIREMENT SYSTEM OF THE CITY OF ST. LOUIS
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SECTION I
BOARD SUMMARY

The primary purpose of the actuarial valuation and this report is to measure, describe and identify as of the valuation date:

- The financial condition of the System,
- Past and expected trends in the financial progress of the System,
- The employers' contributions for Fiscal Year ending 2016, and
- Information required for accounting statements.

In the balance of this Board Summary we present (A) the basis upon which this year's valuation was completed, (B) the key findings of this valuation including a summary of all key financial results, (C) an examination of the historical trends, and (D) the projected financial outlook for the System.

A. Valuation Basis

This October 1, 2015 valuation represents Cheiron's sixth valuation performed for the Employees Retirement System of the City of St. Louis. This valuation continues to reflect the settlement between the Library, the Board of Trustees and the City of St. Louis dated September 7, 2012 (the "Library Settlement"). The Library, Zoo, Art Museum, Tower Grove Park, Taxicab Commission and Mental Health Board hereinafter the "Lawsuit Beneficiary Employers" have a reduced Unfunded Accrued Liability (UAL) Amortization rate to reflect the payments received due to the settlement as of the valuation date.

B. Key Findings of this Valuation

The key results of the October 1, 2015 actuarial valuation are as follows:

- The actuarially determined employer contribution rate for the City as a percent of total compensation decreased from 13.93% as of October 1, 2014 to 12.51% as of October 1, 2015.
- The unfunded actuarial liability for the Employees Retirement System (ERS) increased from \$174 million on October 1, 2014 to \$185 million on October 1, 2015.
- The System's funding ratio, the ratio of actuarial asset value over liabilities decreased from 80.9% as of October 1, 2014 to 80.6% as of October 1, 2015.
- Prior to the 2015 valuation, an experience study was performed on the System to determine the validity of the actuarial assumptions and methods.
 - The demographic actuarial assumptions were revised to reflect recent plan experience. Economic actuarial assumptions were also revised to better reflect the current and expected economic climate. These changes resulted in a decrease of the actuarial liabilities of \$27.2 million.

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- The actuarial cost method was changed from Projected Unit Credit to Entry Age Normal. As a result of this change, value of the liabilities used for funding purposes are now aligned with those reported under GASB statements No. 67 and 68. The change in cost method resulted in an increase of liabilities of \$47.6 million.
- There was also an actuarial experience gain during the year of \$3.4 million.
 - During the year ended September 30, 2015, the System's assets had a negative 3.79% return on a market value basis, but due to smoothing of prior investment gains and losses, the return on the actuarial asset value was 7.62% (as compared to 8.00% assumed prior to October 1, 2015). This resulted in an actuarial loss on investments of \$2.7 million.
 - On the liability side, the System experienced a total gain of \$6.1 million. This gain is comprised of \$3.2 million from participants in pay status receiving a COLA less than expected and \$1.9 million from salary increases being less than expected. These gains are offset by losses from due to participants taking their DROP balance as an annuity payment rather than as a lump sum and other participant behavior not matching the assumptions.
- There were also other changes made in assumptions and methods which did not affect the unfunded actuarial liability, but had an effect on the actuarially determined employer contribution rate.
 - An explicate charge was added to cover administrative expenses equal to 0.30% of payroll. In prior years, administrative expenses were assumed to be netted in determination of the assumed rate of investment return.
 - The amortization method was changed to amortize the unfunded actuarial liability as of October 1, 2015 over a fixed 20 year period as a level percentage of payroll. Future changes in the unfunded actuarial liability due to actuarial gains and losses and assumption changes will be layered over separate fixed 20 year periods. Previously, the unfunded actuarial liability was amortized over open 30 year periods as level dollar amounts.

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Following is Table I-1 which summarizes all the key results of the valuation with respect to the System's membership, assets and liabilities, and contributions. The results are presented and compared for both the current and prior plan year.

**Table I-1
Employees Retirement System of the City of St. Louis
Summary of Principal Results**

Valuation as of:	October 1, 2014	October 1, 2015	% Change
<u>Participant Counts</u>			
Active Participants*	5,436	5,359	(1.42%)
Disabled Participants	197	201	2.03%
Retirees and Beneficiaries	4,117	4,207	2.19%
Terminated Vested Participants	<u>2,440</u>	<u>2,480</u>	<u>1.64%</u>
Total	12,190	12,247	0.47%
Annual Salaries of Active Members	\$ 227,039,143	\$ 228,422,585	0.61%
Annual Retirement Allowances for Retired Members and Beneficiaries	\$ 47,964,357	\$ 50,066,698	4.38%
<u>Assets and Liabilities</u>			
Actuarial Liability (AL)	\$ 911,979,146	\$ 955,120,641	4.73%
Actuarial Value of Assets (AVA)	<u>737,967,928</u>	<u>770,006,025</u>	<u>4.34%</u>
Unfunded Actuarial Liability (UAL)	\$ 174,011,218	\$ 185,114,616	6.38%
Funded Ratio (AVA / AL)	80.9%	80.6%	
Market Value of Assets (MVA)	780,495,634	727,997,133	(6.73%)
Funded Ratio (MVA / AL)	85.6%	76.2%	
<u>Contributions as a Percentage of Payroll</u>			
	Fiscal Year 2015	Fiscal Year 2016	
Normal Cost Rate	7.35%	6.06%	
Administrative Expense Rate	0.00%	0.30%	
City UAL Rate	<u>6.58%</u>	<u>6.15%</u>	
Total City Contribution Rate	13.93%	12.51%	
Reduction in UAL Rate for Lawsuit Beneficiary Employers	0.07%	0.08%	
Total Contribution Rate for Lawsuit Beneficiary Employers	13.86%	12.43%	
Actuarially Determined Contribution	\$ 31,605,493	\$ 28,534,042	(9.72%)

* Includes 443 DROP participants as of October 1, 2014 and 404 DROP participants as of October 1, 2015.

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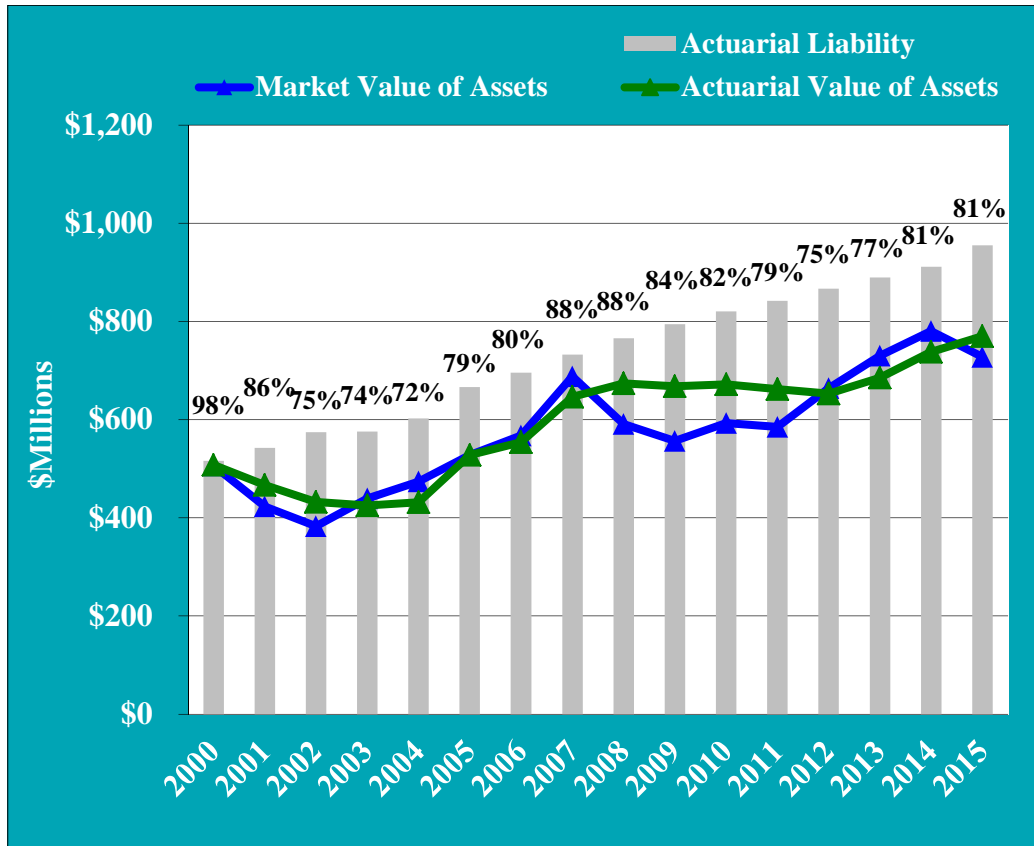
**SECTION I
BOARD SUMMARY**

C. Historical Trends

Despite the fact that for most retirement systems the greatest attention is given to the current valuation results and in particular the size of the current unfunded actuarial liability and the employer’s contribution, it is important to remember that each valuation is merely a snapshot in the long-term progress of a pension fund. It is more important to judge a current year’s valuation result relative to historical trends, as well as trends expected into the future.

Assets and Liabilities

There was a significant decrease in the market value of assets (MVA) from \$780 million to \$728 million, due to a negative 3.79% return during the year. With the asset smoothing method in place, the actuarial value of assets has tracked a slightly smoother path through the volatility of the market over recent years. The actuarial value of assets (AVA) increased from 2014 to 2015 returning 7.62% which includes the three years of substantial investment gains offset by the investment loss for the most recent year ending in 2015.



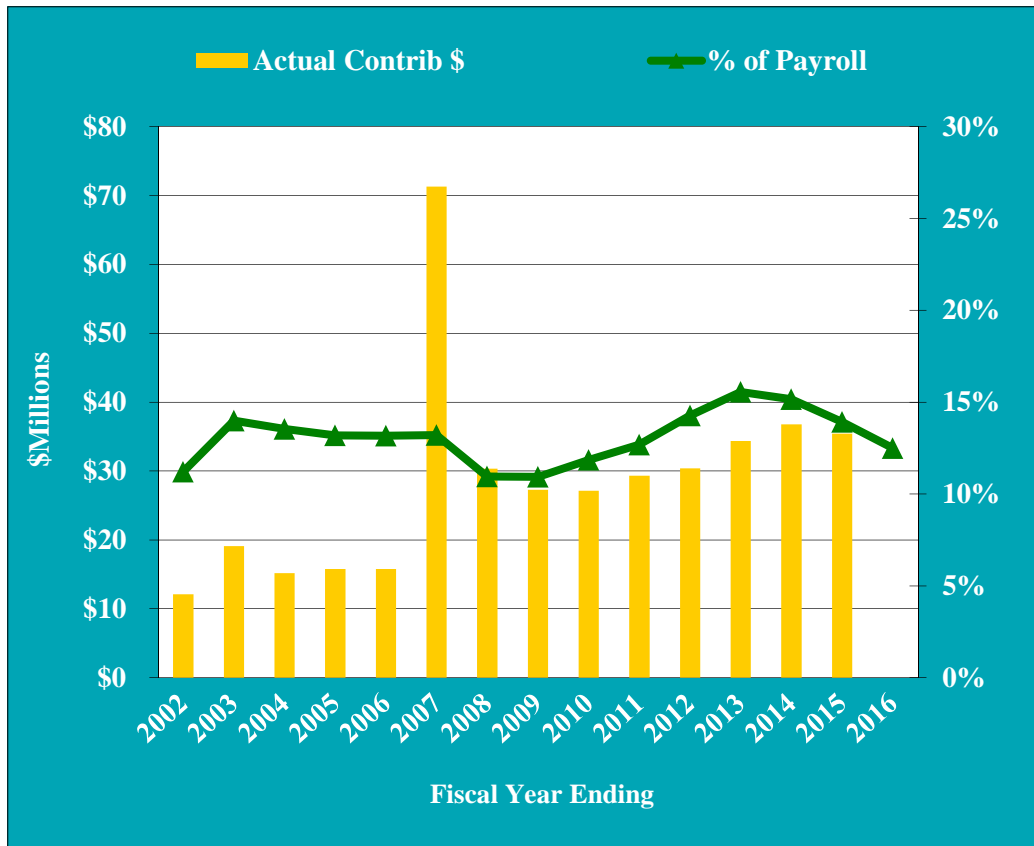
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The above chart compares the actuarial value of assets to the actuarial liabilities and shows the funded ratio, which is a comparison of the Actuarial Value of Assets and Actuarial Liability. This chart shows that the funded ratio had decreased for the four valuations prior to 2013 due to the delayed recognition of the substantial market losses in 2008 and 2009, but has increased with the market rebounds during 2013 and 2014.

Contribution Rates

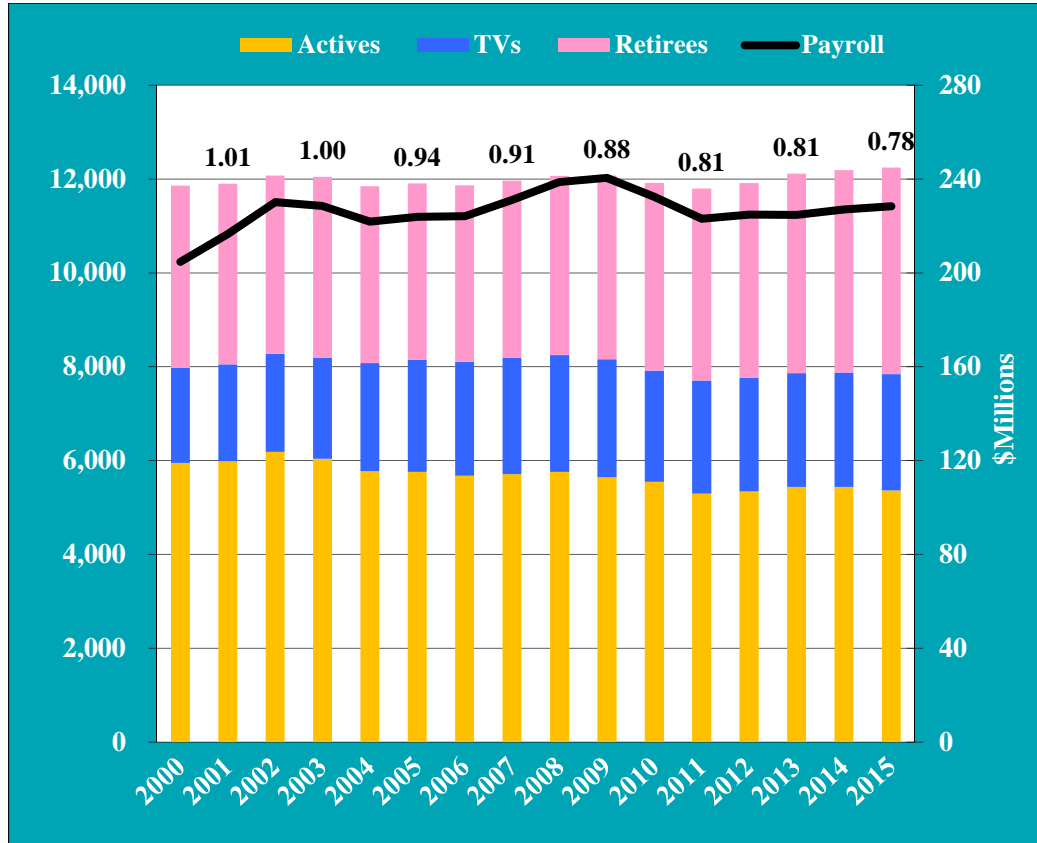
The yellow bars in this graph show the dollar amount of contributions made to the System (depicted on the left hand scale) since Fiscal Year Ending 2002. The green line shows the actuarial contribution rate (combined for all employers) as a percent of payroll (depicted on the right hand scale). Members do not make contributions to the System. The actuarial contribution rate decreased from 13.93% of payroll in 2014 to 12.51% of payroll in 2015 primarily due to changes in the actuarial assumptions and methods.



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Participant Trends



The above chart provides a measure for the maturity in the System, by comparing the ratio of active members to inactive members (retirees and terminated-vesteds). The active-to-inactive ratio has declined since 2000 from 1.01 actives supporting each inactive member to 0.78 actives supporting each inactive member today. This decline is not necessarily bad in itself, but as more of the liability moves from actives to inactives, the plan will experience more volatility in contribution rates when actuarial gains and losses are recognized.

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D. Future Expected Financial Trends

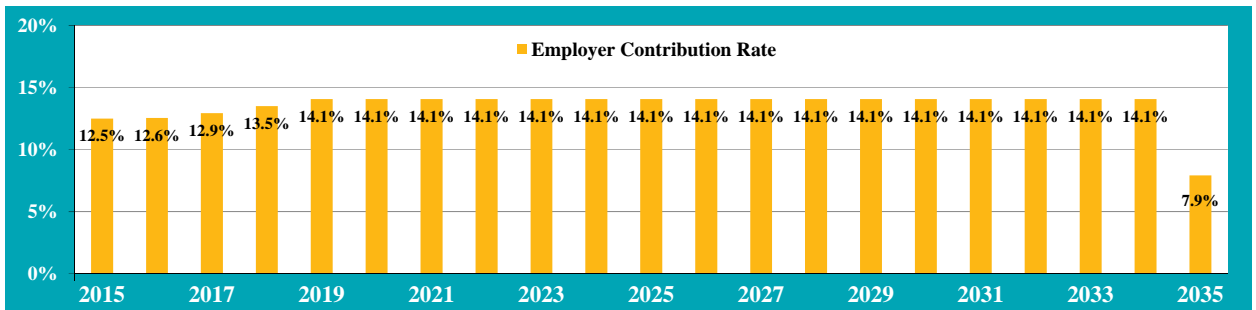
The analysis of projected financial trends is perhaps the most important component of this valuation. In this Section, we present the implications of the October 1, 2015 valuation results in terms of (1) the projected employer contributions, and (2) projected System’s funded status (ratio of assets over liabilities). For each projection set, we assume three different future investment return scenarios: baseline returns of 7.50%, optimistic returns of 9.00%, and pessimistic returns of 6.00%. The projections assume there will be no future gains or losses on the liability.

1. Contribution Rate Projections

The first set of charts show the employer’s projected actuarially determined combined contribution rates (gold bars). The years shown in the charts are plan years beginning October 1st.

Baseline returns of 7.50%

The chart below shows that the actuarially determined contribution rate will initially increase from 12.5% to 14.1% in 2019 and then remain level for 16 years until the unfunded liability has been erased. In 2035, the contribution rate drops to 7.9%. These projections assume that the System earns the assumed investment rate of 7.50% on market value. The expected increase in contribution over the next several years is due to recognition of the 2015 investment loss into the actuarial value of assets.

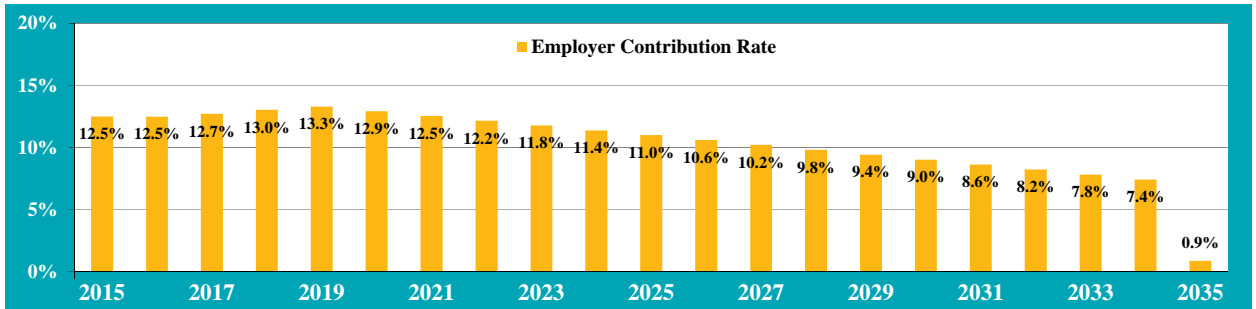


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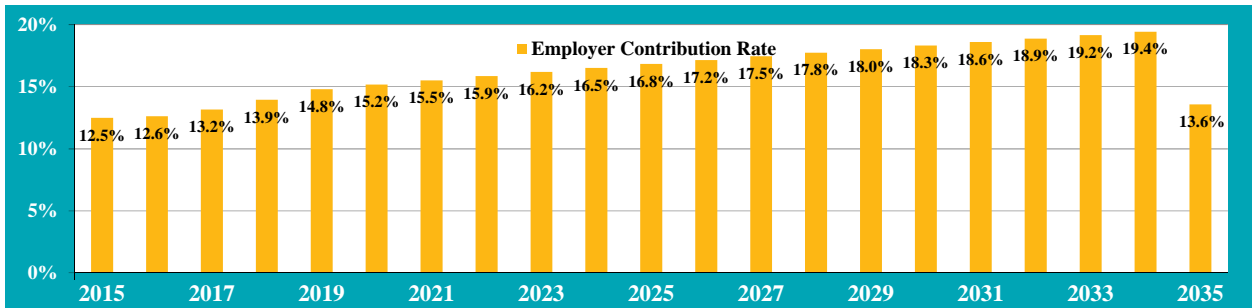
Optimistic returns of 9.00%

If the System earns 1.50% greater than the assumed rate in each year of the projection, the actuarially determined contribution rate will steadily decrease to about 7.4% in 20 years. In 2035, the contribution would drop to 0.9% as the surplus assets will be sufficient to cover the majority of both the expected normal cost and administrative expenses.



Pessimistic returns 6.50%

If the System earns 1.50% less than the assumed rate in each year of the projection, the actuarially determined contribution rate will steadily increase to 19.4% as of 2034 before dropping to a rate of 13.6% after the initial unfunded liability has been paid off.



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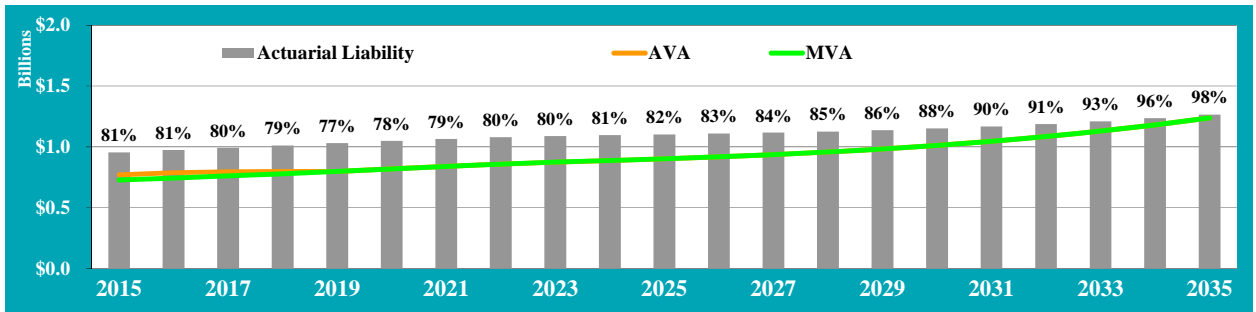
**SECTION I
BOARD SUMMARY**

2. Asset and Liability Projections

This next set of projection charts compare the market value of assets (green line) and the actuarial or smoothed value of assets (gold line) to the System’s actuarial liabilities (gray bars). In addition at the top of each chart, we show the System’s funded ratio (ratio of actuarial value of assets to actuarial liabilities). The projections assume that the actuarially determined contributions, as shown in the previous charts, are made each year. The years shown in the chart signify the valuation date as of October 1st.

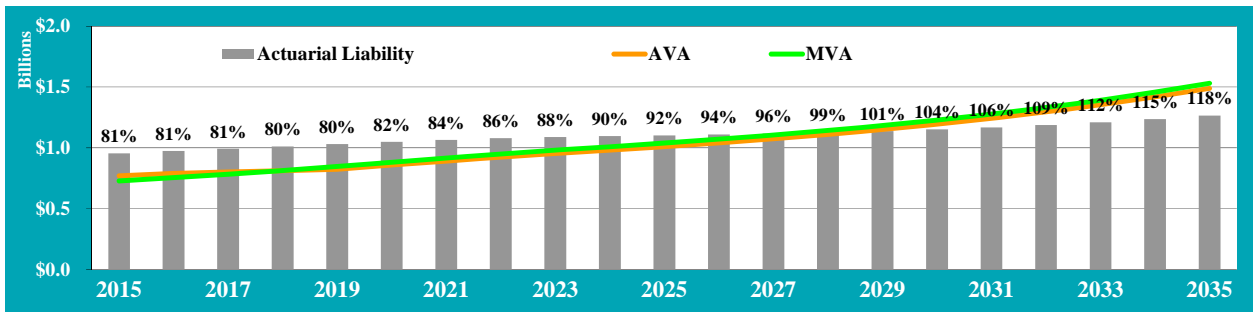
Baseline 7.50% return

Assuming that the System earns the assumed investment rate of 7.50%, the funded ratio will steadily increase from 81% to 98% during the 20 year period.



Optimistic Returns of 9.00%

If the System earns 1.50% greater than the assumed rate of return in each year of the projection, the funded ratio is projected to increase to 118% by 2035.

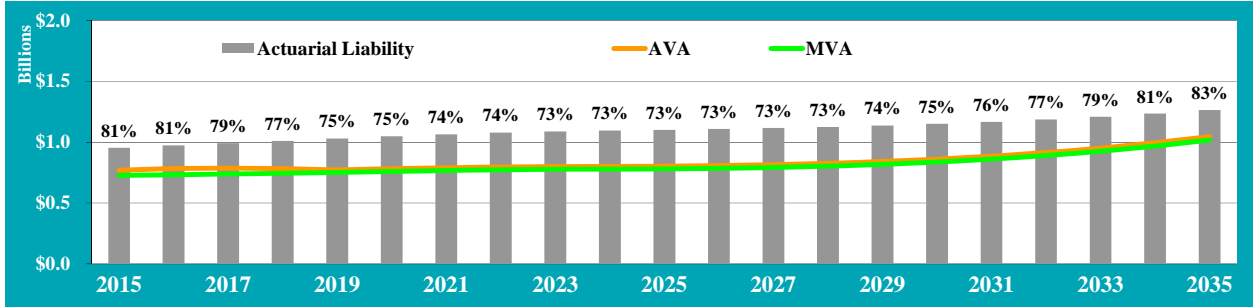


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Pessimistic Returns of 6.00%

If the System earns 1.50% less than the assumed rate of return in each year of the projection, the funded ratio will decrease to 73% by 2023 but recover to 83% by the end of the 20 year period due to the significant increase in contributions attributable to the underfunding.



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**SECTION II
ASSETS**

Pension Plan assets play a key role in the financial operation of the System and in the decisions the Trustees may make with respect to future deployment of those assets. The level of assets, the allocation of assets among asset classes, and the methodology used to measure assets will likely impact benefit levels, employer contributions, and the ultimate security of participants' benefits.

In this section, we present detailed information on the System assets including:

- **Disclosure** of the System assets as of October 1, 2014 and October 1, 2015;
- Statement of the **changes** in market values during the year;
- Development of the **Actuarial Value of Assets**;
- An assessment of **investment performance**; and
- A projection of the System's expected **cash flows** for the next ten years.

Disclosure

There are two types of asset values disclosed in this valuation, the market value of assets and the actuarial value of assets. The market value represents a "snap-shot" or "cash-out" value which provides the principal basis for measuring financial performance from one year to the next. Market values, however, can fluctuate widely with corresponding swings in the marketplace. As a result, market values are usually not as suitable for long-range planning as are the actuarial value of assets which reflect smoothing of annual investment returns.

Table II-1 below discloses and compares each asset value as of September 30, 2014 and 2015.

Table II-1			
Statement of Assets at Market Value as of September 30,			
Assets	2014	2015	% Change
Cash	\$ 216,667	\$ 410,999	89.69%
Receivables	988,427	881,422	(10.83%)
Temporary investments	8,945,777	5,367,130	(40.00%)
U.S Government Securities	26,580,314	27,366,884	2.96%
Corporate Bonds	28,549,643	28,219,300	(1.16%)
Global Bond Portfolio	31,446,933	32,176,378	2.32%
Stocks	262,080,245	184,835,929	(29.47%)
Energy Master Limited Partnerships	0	40,304,169	0.00%
Domestic Bond Funds	78,424,354	78,529,736	0.13%
Managed Real Estate Fund	79,852,588	86,803,989	8.71%
Managed International Equity Funds	186,792,357	169,246,224	(9.39%)
Managed Hedge Fund of Funds	77,331,606	74,517,074	(3.64%)
Accounts Payable	(713,277)	(662,101)	(7.17%)
Market Value of Assets	\$ 780,495,634	\$727,997,133	(6.73%)

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**SECTION II
ASSETS**

Changes in Market Value

Table II-2 below shows the components of change between the market value of assets as of September 30, 2014 and September 30, 2015.

Table II-2 Changes in Market Values		
Value of Assets – September 30, 2014		\$ 780,495,634
<u>Additions</u>		
Payments from Members	\$ 289,810	
Employer Contributions	35,436,141	
Interest and Dividends	9,394,743	
Investment Return	<u>(34,343,492)</u>	
Total Additions	\$ 10,777,202	
<u>Deductions</u>		
Investment Expenses	\$ 3,487,133	
Benefit Payments	59,065,812	
Administrative Expenses	<u>722,758</u>	
Total Deductions	\$ 63,275,703	
Value of Assets – September 30, 2015		\$ 727,997,133

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**SECTION II
ASSETS**

Actuarial Value of Assets

The next table, Table II-3 shows how the actuarial value of assets is developed. The actuarial value of assets method was initialized at market value as of October 1, 2005.

The actuarial value of assets represents a “smoothed” value developed by the actuary to reduce, or eliminate, erratic results which could develop from short-term fluctuations in the market value of assets. For this System, the actuarial value has been calculated by taking the market value of assets less 80% of the investment gain (loss) during the preceding year, less 60% of the investment gain (loss) during the second preceding year, less 40% of the investment gain (loss) during the third preceding year, and less 20% of the investment gain (loss) in the fourth preceding year. The investment gain (loss) is calculated by taking the difference between the expected value of assets based on an expected return of 8.00% for the year ended September 30, 2015 and the actual value of assets. If the actuarial value of assets is less than 80% or more than 120% of the market value, an adjustment is made to the actuarial value to bring the value within this corridor. The tables below illustrate the calculation of actuarial value of assets for the October 1, 2015 valuation.

Table II-3 Development of Actuarial Value of Assets		
Market value of assets at September 30, 2014		\$ 780,495,634
Employer Contributions		35,436,141
Payments from Members		289,810
Benefit payments		(59,065,812)
Expected return at 8.00%		<u>61,524,016</u>
Expected Value at September 30, 2015		\$ 818,679,789
Actual Value at September 30, 2015		<u>727,997,133</u>
Investment (gain)/ loss		\$ 90,682,656
	Total	Excluded Portion
Exclude 0% of 2011 gain/(loss)	\$ (36,300,413)	\$ 0
Exclude 20% of 2012 gain/(loss)	51,546,305	10,309,261
Exclude 40% of 2013 gain/(loss)	32,979,563	13,191,825
Exclude 60% of 2014 gain/(loss)	11,726,911	7,036,147
Exclude 80% of 2015 gain/(loss)	(90,682,656)	<u>(72,546,125)</u>
Total excluded gain/(loss) for AVA calculation		\$ (42,008,892)
Market value of assets at September 30, 2015		\$ 727,997,133
Total gain/(loss) excluded		<u>(42,008,892)</u>
Actuarial value of assets at September 30, 2015		\$ 770,006,025

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**SECTION II
ASSETS**

Investment Performance

The market value of assets (MVA) returned negative 3.79% during plan year ending September 30, 2015, which is greater than the assumed 8.00% return. A return of 7.62% was experienced on the actuarial value of assets (AVA), resulting in a slight actuarial loss for the year. For future years, gains or losses will be measured against the revised assumption of 7.50%. Below, we show additional historical returns.

Table II-4 Historical Returns		
	MVA	AVA
2007	14.65%	10.17%
2008	-12.76%	5.85%
2009	-3.09%	1.52%
2010	10.11%	3.42%
2011	1.79%	1.25%
2012	16.95%	1.56%
2013	13.04%	7.99%
2014	9.63%	10.65%
2015	-3.79%	7.62%

Projection of System's Future Cash Flows

Table II-5 Projection of System's Expected Cash Flows			
Year Beginning	Benefit Payments	Contributions	Net Cash Flow
October 1,			
2015	\$ 66,008,805	\$ 28,534,041	\$ (37,474,764)
2016	66,806,979	29,543,840	(37,263,139)
2017	69,827,241	31,368,646	(38,458,594)
2018	71,130,119	33,694,152	(37,435,967)
2019	72,754,654	36,177,089	(36,577,566)
2020	78,207,494	37,262,401	(40,945,093)
2021	80,155,655	38,380,273	(41,775,381)
2022	87,831,405	39,531,682	(48,299,724)
2023	89,770,664	40,717,632	(49,053,032)
2024	92,411,428	41,939,161	(50,472,267)

Expected contributions assume contribution rates as shown in the graph on page 7 and that payroll will increase at the actuarially assumed rate of 3.0% per year. Expected benefit payments are projected for the closed group valued at October 1, 2015. Projecting any farther than ten years using a closed-group would not yield reliable predictions due to the omission of new hires.

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**SECTION III
LIABILITIES**

In this section, we present detailed information on the System liabilities including:

- **Disclosure** of the System liabilities as of October 1, 2014 and October 1, 2015, and
- Statement of **changes** in these liabilities during the year.

Disclosure

Several types of liabilities are calculated and presented in this report. Each type is distinguished by the people ultimately using the figures and the purpose for which they are using them.

- **Present Value of All Future Benefits:** Used for measuring all future System obligations, represents the amount of money needed today to fully pay off all benefits of the System both earned as of the valuation date and those to be earned in the future by current plan participants, under the current plan provisions.
- **Actuarial Liability:** Calculated as of the valuation date as the present value of benefits allocated to service prior to that date. At October 1, 2014 (and for prior years), the actuarial liability was determined using the Projected Unit Credit method. Effective October 1, 2015, the actuarial liability is determined using the Entry Age Normal method.

These liabilities are for funding purposes and are not appropriate for measuring the cost of settling plan liabilities by purchasing annuities or paying lump sums.

Table III-1, which follows, discloses each of these liabilities for the current and prior valuations. With respect to each disclosure, a subtraction of the appropriate value of plan assets yields, for each respective type, a **net surplus** or an **unfunded liability**.

Table III-1		
Liabilities/Net (Surplus)/Unfunded		
	October 1, 2014	October 1, 2015
<u>Present Value of Future Benefits</u>		
Active Participant Benefits	\$ 538,425,198	\$ 532,594,970
Participants currently receiving payments	438,134,788	442,252,818
Participants with a deferred vested benefit	<u>56,529,671</u>	<u>58,870,379</u>
Present Value of Future Benefits (PVB)	\$ 1,033,089,657	\$ 1,033,718,167
<u>Actuarial Liability</u>		
Active Participant Benefits	\$ 417,314,687	\$ 453,997,444
Participants currently receiving payments	438,134,788	442,252,818
Participants with a deferred vested benefit	<u>56,529,671</u>	<u>58,870,379</u>
Actuarial Liability (AL)	\$ 911,979,146	\$ 955,120,641
Actuarial Value of Assets (AVA)	<u>\$ 737,967,928</u>	<u>\$ 770,006,025</u>
Net (Surplus)/Unfunded (AL – AVA)	\$ 174,011,218	\$ 185,114,616

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**SECTION III
LIABILITIES**

Changes in Liabilities

Each of the Liabilities disclosed in the prior table are expected to change at each valuation. The components of that change, depending upon which liability is analyzed, can include:

- New hires since the last valuation
- Benefits accrued since the last valuation
- System amendments changing benefits
- Passage of time which adds interest to the prior liability
- Benefits paid to retirees since the last valuation
- Participants retiring, terminating, or dying at rates different than expected
- A change in actuarial or investment assumptions
- A change in the actuarial funding method

Unfunded liabilities will change because of all of the above, and also due to changes in plan assets resulting from:

- Employer contributions different than expected
- Investment earnings different than expected
- A change in the method used to measure plan assets

In each valuation, we report on those elements of change which are of particular significance, potentially affecting the long-term financial outlook of the System. Below, we present key changes in liabilities since the last valuation.

In the table that follows, we show the components of change in the actuarial liability between October 1, 2014 and October 1, 2015.

Table III-2		Actuarial Liability
Liabilities October 1, 2014	\$	911,979,146
Liabilities October 1, 2015		955,120,641
Liability Increase (Decrease)		43,141,495
Change Due to:		
Plan Amendments		0
Method Changes		47,573,944
Assumption Changes		(27,184,890)
Experience (Gain)/Loss		(6,114,189)
Benefits Accumulated and Other Sources		28,866,630

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SECTION III
LIABILITIES

In addition, we breakdown the change in actuarial liability further by showing the total actuarial (gain)/loss by source, as shown in Table III-3 below.

COLA less than expected	\$	(3,224,186)
Salary increase less than expected for continuing actives		(1,866,807)
Actives retiring earlier than expected		3,213,226
Other sources		<u>(4,236,422)</u>
Experience (Gain)/Loss	\$	(6,114,189)

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**SECTION IV
CONTRIBUTIONS**

In the process of evaluating the financial condition of any pension plan, the actuary analyzes the assets and liabilities to determine what level (if any) of contributions is needed to properly maintain the funding status of the System. Typically, the actuarial process will use a funding technique that will result in a pattern of contributions that are both stable and predictable.

For this System, the funding method employed as of the October 1, 2015 valuation is the **Entry Age Normal Actuarial Cost Method**. The cost method for valuation of liabilities used for this valuation is the Entry Age Normal (EAN) method. This method is used to determine the normal cost rate at which an average level percent of pay is required to fund the retirement benefits for all participants between their dates of hire and assumed dates of retirement. The EAN actuarial liability is the difference between the plan's total present value of future benefits and the present value of future normal costs. The difference between the Entry Age Normal actuarial liability and the actuarial value of assets is the unfunded actuarial liability. Prior to 2015, the funding method was the Projected Unit Credit Actuarial Cost Method. Effective October 1, 2015 and administrative expense rate of 0.30% of payroll is included in the calculation.

The unfunded actuarial liability as of October 1, 2015 is amortized over a fixed 20-year period as a level percentage of payroll. Future gains and losses and changes in actuarial assumptions will be amortized in layers over separate 20 year periods. Prior to 2015, the amortization payment was calculated on open 30-year periods as level dollar amounts.

Table IV-1 below presents and compares the employer contribution rates for the System for this valuation and the prior one.

Table IV-1 Employer Contribution Rate		
	Fiscal Year Ending 2015	Fiscal Year Ending 2016
Normal Cost Rate	7.35%	6.06%
Administrative Expense Rate	0.00%	0.30%
UAL Amortization Payment for City	<u>6.58%</u>	<u>6.15%</u>
Actuarially Determined Contribution Rate for City	<u>13.93%</u>	<u>12.51%</u>
Reduction in UAL Amortization Payment for Lawsuit Beneficiary Employers	0.07%	0.08%
Actuarially Determined Contribution Rate for Lawsuit Beneficiary Employers	13.86%	12.43%

**EMPLOYEES RETIREMENT SYSTEM OF THE CITY OF ST. LOUIS
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**SECTION IV
CONTRIBUTIONS**

The Unfunded Actuarial Liability (UAL) is amortized over a 20 year period. As of October 1, 2015, the Unfunded Actuarial Liability is \$185,114,616. This results in a total amortization payment of \$14,016,307. The amortization payment as a percent of payroll is different for City Employers and for Lawsuit Beneficiary Employers. This difference is attributable to the settlement between the Library, the Board of Trustees and the City of St. Louis dated April 5, 2010. The Unfunded Actuarial Liability as of October 1, 2014 was \$174,011,218 with a total amortization payment of \$14,942,657 for all employers combined. The amortization payment as of October 1, 2014 was based on an open 30 year level dollar amortization of the unfunded liability. Table IV-2 shows the detailed calculation of the current year UAL amortization rates for the City and Lawsuit Beneficiary Employers.

Table IV-2 Amortization Schedule					
	UAL Amount	Period	Amount	Applicable Payroll	UAL Rate
UAL without regard to Library Settlement	\$ 185,517,727	20	\$ 14,046,829	\$ 228,422,585 ¹	6.15%
Unamortized Amounts from Library Settlement	<u>(403,111)</u>	20	<u>(30,522)</u>	35,988,710 ²	-0.08%
Total	\$ 185,114,616		\$ 14,016,307		

¹ Total payroll for all participating employers

² Payroll for Lawsuit Beneficiary Employers

**EMPLOYEES RETIREMENT SYSTEM OF THE CITY OF ST. LOUIS
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**SECTION V
ACCOUNTING STATEMENT INFORMATION**

GFOA Recommended Information

The Government Finance Officers Association (GFOA) maintains a checklist of items to be included in a public retirement system's Comprehensive Annual Financial Report (CAFR) in order to receive recognition for excellence in financial reporting. Although the Employees Retirement System does not issue a CAFR under GFOA guidelines, we have included certain schedules in this section for possible inclusion within the System's audited financial statements. These schedules are based on the funding actuarial liabilities.

- Table V-1: Analysis of Financial Experience
- Table V-2: Solvency Test
- Table V-3: Schedule of Funding Progress

Table V-1					
Analysis of Financial Experience					
Gain and Loss in Unfunded Actuarial Liability During Years Ended September 30					
Resulting from Differences Between Assumed Experience and Actual Experience					
<i>Gain (or Loss) for Year ending September 30,</i>					
Type of Activity	2011	2012	2013	2014	2015
Investment Experience	\$ (44,736,952)	\$ (42,041,794)	\$ (87,586)	\$17,899,526	\$ (2,743,842)
Liability Experience	<u>12,671,467</u>	<u>7,779,666</u>	<u>8,391,763</u>	<u>7,265,891</u>	<u>6,114,189</u>
Gain (or Loss) During Year from Combined Experience	\$ (32,065,485)	\$ (34,262,128)	\$ 8,304,177	\$25,165,417	\$ 3,370,347
Non-Recurring Gain (or Loss) Items	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>20,389,054</u>
Composite Gain (or Loss) During Year	\$ (32,065,485)	\$ (34,262,128)	\$ 8,304,177	\$25,165,417	\$ 23,759,401

**EMPLOYEES RETIREMENT SYSTEM OF THE CITY OF ST. LOUIS
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**SECTION V
ACCOUNTING STATEMENT INFORMATION**

**Table V-2
Solvency Test¹
Aggregate Actuarial Liabilities for**

Valuation Date October 1	Active Member Contributions	Retirees & Beneficiaries	Active Member Employer Financed Contributions	Actuarial Value of Reported Assets	Portion of Actuarial Liabilities Covered by Reported Assets		
	(1)	(2)	(3)		(1)	(2)	(3)
2015	0	\$ 501,123,197	\$ 453,997,444	\$ 770,006,025	100%	100%	59%
2014	0	494,664,459	417,314,687	737,967,928	100%	100%	58%
2013	0	475,937,321	413,511,258	685,397,323	100%	100%	51%
2012	0	460,581,077	406,310,985	653,001,852	100%	100%	47%
2011	0	441,520,555	400,242,766	661,932,240	100%	100%	55%
2010	0	419,717,802	400,951,838	671,608,995	100%	100%	63%

¹ We will build to the required 10 years of disclosure information.

**EMPLOYEES RETIREMENT SYSTEM OF THE CITY OF ST. LOUIS
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**SECTION V
ACCOUNTING STATEMENT INFORMATION**

**Table V-3
Schedule of Funding Progress**

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Liability (b)	Unfunded Actuarial Liability (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	Percentage of Covered Payroll [(b) - (a)] / (c)
10/1/2005	\$527,733,171	\$666,182,075	\$138,448,904	79.22%	\$223,837,003	61.85%
10/1/2006	\$554,065,539	\$695,889,716	\$141,824,177	79.62%	\$224,120,314	63.28%
10/1/2007	\$646,569,478	\$732,576,024	\$86,006,546	88.26%	\$231,029,237	37.23%
10/1/2008	\$674,016,719	\$765,842,026	\$91,825,307	88.01%	\$238,701,628	38.47%
10/1/2009	\$667,667,205	\$794,686,379	\$127,019,174	84.02%	\$240,409,390	52.83%
10/1/2010	\$671,608,995	\$820,669,641	\$149,060,646	81.84%	\$232,451,661	64.13%
10/1/2011	\$661,932,240	\$841,763,321	\$179,831,081	78.64%	\$223,060,719	80.62%
10/1/2012	\$653,001,852	\$866,890,445	\$213,888,593	75.33%	\$224,822,252	95.14%
10/1/2013	\$685,397,323	\$889,448,579	\$204,051,256	77.06%	\$224,623,445	90.84%
10/1/2014	\$737,967,928	\$911,979,146	\$174,011,218	80.92%	\$227,039,143	76.64%
10/1/2015	\$770,006,025	\$955,120,641	\$185,114,616	80.62%	\$228,422,585	81.04%

**EMPLOYEES RETIREMENT SYSTEM OF THE CITY OF ST. LOUIS
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**APPENDIX A
MEMBERSHIP INFORMATION**

Employees Retirement System of the City of St. Louis Table of Plan Coverage			
	October 1, 2014	October 1, 2015	% change
Active Members in Valuation			
Count	5,436	5,359	-1.4%
Average Age	48.1	48.4	0.7%
Average Service	12.4	12.5	0.2%
Total Payroll	\$ 227,039,143	\$ 228,422,585	0.6%
Average Anticipated Payroll	\$ 41,766	\$ 42,624	2.1%
Total Active Vested Members	3,786	3,585	-5.3%
DROP Members in Valuation (included in Active Members)			
Count	443	404	-8.8%
Average Age	60.8	61.4	0.9%
Average Service	25.0	24.4	-2.2%
Total DROP Account Balances	\$ 19,601,775	\$ 16,447,751	-16.1%
Average DROP Account Balances	\$ 44,248	\$ 40,712	-8.0%
Vested Terminated Members	2,440	2,480	1.6%
Pensioners			
Number in Pay Status			
Retirees	3,667	3,740	2.0%
Disabled Retirees	<u>197</u>	<u>201</u>	2.0%
Total	3,864	3,941	2.0%
Average Age	72.73	72.79	0.1%
Average Monthly Benefit	\$ 937	\$ 956	2.0%
Beneficiaries in Pay Status	450	467	3.8%

**EMPLOYEES RETIREMENT SYSTEM OF THE CITY OF ST. LOUIS
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**APPENDIX A
MEMBERSHIP INFORMATION**

Employees Retirement System of the City of St. Louis Inactive Participants by Type and Monthly Benefit Amount					
Monthly Amount	Total	Retirees	Terminated Vested	Disability	Beneficiaries
Total	6,888	3,740	2,480	201	467
Under \$500	3,919	1,635	2,014	69	201
\$500-1,000	1,397	797	386	91	123
\$1,000-1,500	705	550	60	31	64
\$1,500-2,000	404	339	16	8	41
\$2,000-2,500	181	165	1	1	14
\$2,500-3,000	93	78	3	1	11
\$3,000-3,500	66	61	0	0	5
\$3,500-4,000	35	31	0	0	4
\$4,000-4,500	42	41	0	0	1
\$4,500-5,000	17	15	0	0	2
\$5,000 & over	29	28	0	0	1

**EMPLOYEES RETIREMENT SYSTEM OF THE CITY OF ST. LOUIS
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**APPENDIX A
MEMBERSHIP INFORMATION**

Employees Retirement System of the City of St. Louis Status Reconciliation								
	<u>Active</u>	<u>Leave of Absence</u>	<u>DROP</u>	<u>Disabled</u>	<u>Retired</u>	<u>Beneficiary</u>	<u>Terminate d Vested</u>	<u>Total</u>
Participant Count as of October 1, 2014	4,979	14	443	197	3,667	450	2,440	12,190
New hires	477	0	0	0	0	0	0	477
Leave of Absence	(12)	12	0	0	0	0	0	0
Rehires	34	(6)	0	(1)	(1)	0	(26)	0
Enter DROP	(95)	0	95	0	0	0	0	0
Return from DROP	80	0	(80)	0	0	0	0	0
Term Vested	(173)	(1)	(1)	0	0	0	175	0
Retired	(95)	(1)	(52)	0	246	0	(98)	0
Disabled	(15)	(1)	(1)	20	0	0	(3)	0
Deceased (with Beneficiary)	(7)	0	0	(7)	(31)	47	(2)	0
Deceased (without Beneficiary)	(49)	0	0	(8)	(143)	(25)	(8)	(233)
Term Not Vested	(186)	0	0	0	0	0	0	(186)
Benefits Expired	0	0	0	0	0	(5)	0	(5)
Status Correction	0	0	0	0	2	0	2	4
Net Change	(41)	3	(39)	4	73	17	40	57
Participant Count as of October 1, 2015	4,938	17	404	201	3,740	467	2,480	12,247

**EMPLOYEES RETIREMENT SYSTEM OF THE CITY OF ST. LOUIS
OCTOBER 1, 2015 ACTUARIAL VALUATION REPORT**

**APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS**

A. Actuarial Assumptions and Actuarial Cost Method

1. Mortality Rates:

Healthy: RP-2000 Healthy Mortality with 3 year set-forward with generational projections using Scale AA

Disabled: RP-2000 Disabled Mortality with 3 year set-forward with generational projections using Scale AA

The table below shows the probability of death at sample ages with the mortality table described above projected to the year 2015. A generational table is projected forward each year to account for continuous mortality improvements.

Age	Healthy Mortality (%)		Disabled Mortality (%)	
	Male	Female	Male	Female
20	0.0373	0.0197	2.2571	0.7450
25	0.0393	0.0235	2.2571	0.7450
30	0.0631	0.0394	2.2571	0.7450
35	0.0964	0.0598	2.2571	0.7450
40	0.1299	0.0937	2.2571	0.7450
45	0.1860	0.1434	2.6404	0.9775
50	0.2916	0.2207	3.2859	1.4465
55	0.5273	0.3923	3.9334	1.9710
60	1.0012	0.7648	4.6584	2.5293
65	1.7871	1.3445	5.6909	3.3234
70	3.0387	2.2970	7.3292	4.5769
75	5.2123	3.7595	9.7640	6.3545
80	8.9718	6.2506	12.8343	8.7838
85	15.0590	10.7303	16.2186	12.2464
90	23.3662	17.0433	23.3662	13.0972
95	31.5296	22.3947	31.5296	22.3947
100	38.3040	26.6044	38.3040	26.6044

**EMPLOYEES RETIREMENT SYSTEM OF THE CITY OF ST. LOUIS
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**APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS**

2. Disability Rates before Retirement:

Age	Disability (%)	
	Male	Female
20	0.0200	0.0200
25	0.0200	0.0200
30	0.0200	0.0200
35	0.0200	0.0200
40	0.0560	0.0480
45	0.1176	0.0960
50	0.50040	0.2400
55	0.6160	0.3360
60	0.7500	0.3500

3. Withdrawal Rates before Retirement:

Creditable Service	Withdrawal (%)	Creditable Service	Withdrawal (%)
0	20.00	11	3.25
1	17.50	12	3.00
2	15.00	13	2.75
3	12.50	14	2.50
4	10.00	15	2.25
5	9.00	16	2.00
6	8.00	17	1.75
7	7.50	18	1.50
8	7.00	19	1.25
9	4.50	20+	1.25
10	3.50		

**EMPLOYEES RETIREMENT SYSTEM OF THE CITY OF ST. LOUIS
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**APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS**

4. Retirement Rates:

Age	Retirement Rate (%)	Age	DROP Rate (%)
50	2.00	50	12.50
51	2.00	51	12.50
52	2.00	52	12.50
53	2.00	53	12.50
54	2.00	54	12.50
55	2.00	55	20.00
56	2.00	56	20.00
57	2.00	57	20.00
58	5.00	58	20.00
59	5.00	59	20.00
60	10.00	60	20.00
61	10.00	61	10.00
62	25.00	62	10.00
63	10.00	63	10.00
64	10.00	64	10.00
65	30.00	65	10.00
66	25.00	66	10.00
67	25.00	67	10.00
68	25.00	68	10.00
69	25.00	69	10.00
70	100.00	70	100.00

In addition, in the first year that a participant satisfies the requirements under the “Rule of 85,” the DROP rate is assumed to be 75% if the age in the first year of eligibility is 56 or younger, 60% for ages 57 to 60, 50% for ages 61 to 65, and 15% for ages greater than 65 (100% at age 70).

5. Retirement Age for Inactive Vested Participants

For members who terminate employment with 30 or more years of creditable service or are eligible for a Rule of 85 pension, immediate commencement of benefits is assumed. All others are assumed to retire at age 61.

6. DROP Participants

Participants in the DROP are assumed to remain in the DROP for 5 years. Interest to the DROP account is assumed to be creditable at 6% per annum for those participants who enter the DROP after January 21, 2003. 50% of those participants electing DROP are expected to return to active employment for two years before retiring.

EMPLOYEES RETIREMENT SYSTEM OF THE CITY OF ST. LOUIS
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APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS

7. Unknown Data for Participants

Same as those exhibited by participants with similar known characteristics. For inactive vested participants with unknown benefit amounts, \$250 per month is assumed.

8. Rehires

No explicit assumption or load.

9. Sick Leave

Sick leave may be used to increase either Final Average Compensation, Creditable Service, or both. Starting with the October 1, 2010 valuation, the actual unused credited sick leave hours on file were used in the valuation. Effective in July 2010, the accumulation of unused sick leave hours that can be used for benefit purposes, was frozen.

10. Percent Married

80% for all participants.

11. Age of Spouse

Females (or males) are three years younger (or older) than their spouses.

12. Net Investment Return

7.50% per year, net of investment expenses.

13. Administrative Expenses

0.30% of payroll.

EMPLOYEES RETIREMENT SYSTEM OF THE CITY OF ST. LOUIS
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APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS

14. Salary Increases

Varies by service, ranging from 3.00% to 4.25%.

Service	Salary Increase (%)
0	4.25
1	4.07
2	3.92
3	3.79
4	3.69
5	3.61
6	3.53
7	3.46
8	3.36
9	3.29
10	3.23
11	3.18
12	3.14
13	3.10
14	3.08
15	3.05
16	3.03
17	3.02
18	3.01
19	3.01
20	3.00

15. Increases in Social Security Table Wage Base

3.0% per year.

16. Cost-of-Living Adjustment

2.5% per year for 8 years and 0% thereafter.

17. Increase in Section 415 and Section 401(a)(17) limits

2.5% per year.

18. Rationale for actuarial assumptions

The actuarial assumptions were adopted by the Board of Trustees based upon recommendations made in an actuarial experience study covering the years 2009 through 2014.

**EMPLOYEES RETIREMENT SYSTEM OF THE CITY OF ST. LOUIS
OCTOBER 1, 2015 ACTUARIAL VALUATION REPORT**

**APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS**

19. Changes in actuarial assumptions since last valuation

- Economic and demographic actuarial assumptions were updated based on experience study performed in 2015.
- An explicit assumption for administrative expenses was added equal to 0.30% of covered payroll.

EMPLOYEES RETIREMENT SYSTEM OF THE CITY OF ST. LOUIS
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APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS

B. Actuarial Methods

1. Actuarial Value of Assets

The market value of assets less unrecognized returns in each of the last five years, but no earlier than October 1, 2005. Initial unrecognized return is equal to the difference between the actual market return and expected market return, and is recognized over a five-year period. The actuarial value is further adjusted, if necessary, to be within 20% of the market value. The actuarial asset value was initialized at the market value as of October 1, 2005.

2. Actuarial Cost Method

The cost method for valuation of liabilities used for this valuation is the Entry Age Normal (EAN) method. This method is used to determine the normal cost rate at which an average level percent of pay is required to fund the retirement benefits for all Participants between their dates of hire and assumed dates of retirement. The EAN actuarial liability is the difference between the plan's total present value of future benefits and the present value of future normal costs. The unfunded actuarial liability is the difference between the actuarial liability and the actuarial value of assets.

3. Amortization Method

The unfunded actuarial liability as of October 1, 2015 is amortized over a fixed 20-year period as a level percentage of payroll. Future gains and losses and changes in actuarial assumptions will be amortized in layers over separate 20 year periods.

To reflect the settlement between the Library, the Board of Trustees and the City of St. Louis two Unfunded Accrued Liability Amortization rates are calculated. The Library, Zoo, Art Museum, Tower Grove Park, Taxicab Commission and Mental Health Board collectively called the "Lawsuit Beneficiary Employers" have a reduced UAL Amortization rate to reflect the payments received due to the settlement as of the valuation date. First, the UAL amortization payment is determined for the combined plan (base payment). Second, the value of settlement payments made by the City are set up as gain bases and the Lawsuit Beneficiary Employers have a reduction in the contribution rate determined from the payment on these gain bases and their projected payroll. The City's UAL amortization payment is determined only on the base payment. The Lawsuit Beneficiary Employers' UAL amortization payment is the base payment minus the amortization of the gain bases that result from settlement payments.

**EMPLOYEES RETIREMENT SYSTEM OF THE CITY OF ST. LOUIS
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**APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS**

4. Changes in Actuarial Methods since last valuation

The actuarial cost method was changed from Projected Unit Credit to Entry Age Normal and the amortization of the unfunded liability was changed from a rolling 30-year level dollar amortization to layered 20-year amortizations as described above.

EMPLOYEES RETIREMENT SYSTEM OF THE CITY OF ST. LOUIS
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APPENDIX C
SUMMARY OF PLAN PROVISIONS

1. Plan Year

October 1 through September 30.

2. Final Average Compensation

One-half the sum of:

- (a) The total compensation earned during the last two highest consecutive years of Creditable Service prior to termination (subject to the Section 401(a)(17) limit); and
- (b) The balance of sick leave pay as of the date of retirement less sick leave hours paid upon termination and less sick leave hours considered as Creditable Service. Said balance cannot exceed 25% of a member's total sick leave pay as of the date of retirement. The amount of credited sick leave was frozen on July 17, 2010.

3. Benefit Compensation Base

Amount of annual compensation with respect to which old age and survivor's insurance benefits would be provided to the member under the Social Security Act in effect on the date the Benefit Compensation Base is determined calculated when the member terminates employment.

4. Normal Retirement

Age Requirement: 65.

Service Requirement: Five years of Creditable Service.

Amount: The product of:
(a) 1.30% of Final Average Compensation up to the Benefit Compensation Base, plus 2.05% of Final Average Compensation in excess of the Benefit Compensation Base, and
(b) Creditable Service.

Minimum \$200 per month for retirees with 12 or more years of creditable service.

EMPLOYEES RETIREMENT SYSTEM OF THE CITY OF ST. LOUIS
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APPENDIX C
SUMMARY OF PLAN PROVISIONS

5. Rule of 85 Retirement

Age/Service Requirement: Sum of Age and Creditable Service at date of termination equals or exceeds 85.

Amount: The product of:
(a) 1.30% of Final Average Compensation up to the Benefit Compensation Base, plus 2.05% of Final Average Compensation in excess of the Benefit Compensation Base, and
(b) Creditable Service.

6. Early Retirement

Age/Service Requirement: Age 60 with five years of Creditable Service; or age 55 with 20 years of Creditable Service; or any age with 30 years of Creditable Service.

Amount: Normal retirement amount reduced by 1/3% for each month benefit begins before age 65.

7. Disability

Age Requirement None.

Service Requirement Five years of Creditable Service and an active employee at disablement.

Amount Normal retirement amount based on Creditable Service and Final Average Compensation at disability, payable immediately.

8. DROP (Deferred Retirement Option Plan)

Members who have achieved eligibility for retirement can continue active employment and defer receipt of their retirement allowance for a period not to exceed five years. During the DROP period, the member's retirement allowance will be paid directly into a separate account.

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Service during the DROP period shall not be counted as Creditable Service, nor shall it count toward determination of retirement allowance. A member's DROP account shall not be adjusted for any cost-of-living increases during participation in the DROP. No member returning to non-DROP status shall make any withdrawal from his/her DROP account until after termination of employment.

The account balance is credited with interest annually. In no event does the total account balance exceed the accumulated value of five-years-payments with interest.

The annuity awarded upon full termination and subsequent benefit receipt reflects the unused sick-leave conversion to Creditable Service and/or Final Average compensation. During participation in the DROP, the annual deposit to the account does NOT reflect any conversion of unused sick leave as each participant continues to accrue sick leave hours. The unused credited sick leave hours was frozen as of July 17, 2010.

9. Vesting

Age Requirement: None.

Service Requirement: Five years of Creditable Service.

Amount: Normal or early service retirement amount.

10. Spouse Pre-Retirement Death Benefit

Age Requirement: None.

Service Requirement: Five years of Creditable and an active employee.

Amount: If married, 100% of the benefit the employee would have received had he or she retired the day before he or she died and elected the joint and 100% survivor option. If the employee died prior to eligibility for early service retirement, the spouse's benefit is deferred to the employee's earliest retirement date.

Death benefits may also be payable to members who have terminated employment. The costs of those benefits are paid for by the reduction of the accrued benefit payable to the inactive vested participant.

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11. Post-Retirement Death Benefit

If married, the employee and spouse may elect to have pension benefits paid in the form of a 100% joint and survivor annuity. A member may also elect a ten year certain and life equivalent form of benefit. If any one of these options is elected, the benefit amount otherwise payable is reduced to reflect the coverage. If not elected, benefits are payable for the life of the employee without reduction.

12. Cost-of-Living Adjustment (COLA)

Based on the change in the Consumer Price Index (CPI) for the fiscal year, subject to a maximum increase of 3.125% per year (3.0% for retirements between March 21, 1972 and March 26, 1974; none for retirements prior to March 21, 1972), with a cumulative percentage increase (equal to the sum of the annual percentage increases) limited to 25%. If the increase in CPI is less than 1.0%, no adjustment is made. If the change is a decrease, the cost-of-living adjustment shall be zero unless the decrease is 3.125% or more. Adjustments begin on the second January 1 after payments begin.

13. Creditable Service

Number of years and completed months of service during which the member receives compensation after April 1, 1960. Creditable Service for employment prior to April 1, 1960 is granted only if the member was an employee of an employer of the System on April 1, 1960. Unused credited sick leave shall be considered as Creditable Service provided the member does not receive payment for the sick leave. The amount of credited sick leave was frozen on July 17, 2010.

14. Membership

Immediate upon employment.

15. Section 415 limit

\$210,000, effective January 1, 2016.

16. Section 401(a)(17) limit

\$265,000, effective January 1, 2016.

17. Changes Since Last Valuation

None.