



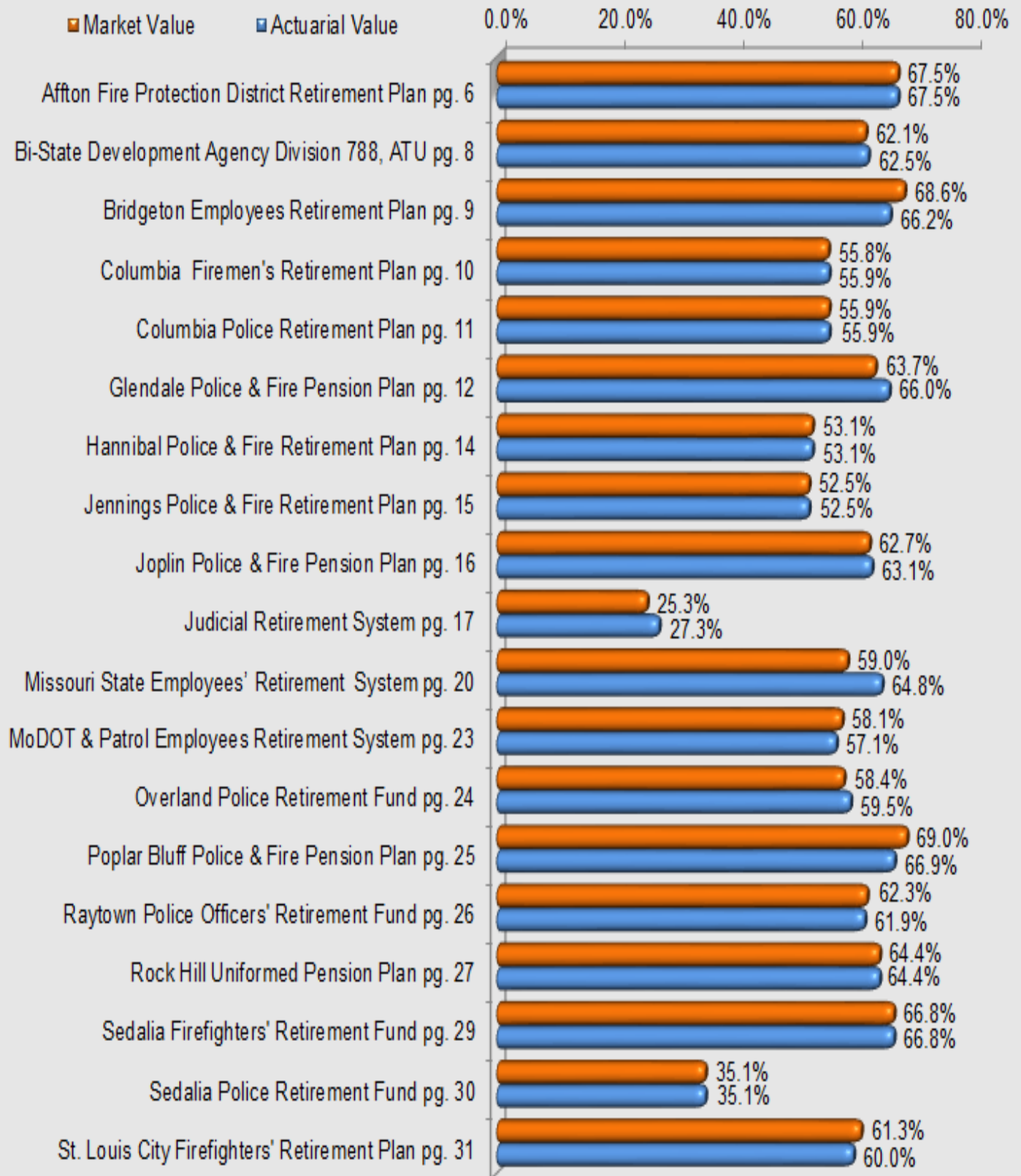
JOINT COMMITTEE ON PUBLIC EMPLOYEE RETIREMENT

ANNUAL WATCH LIST

December 2018

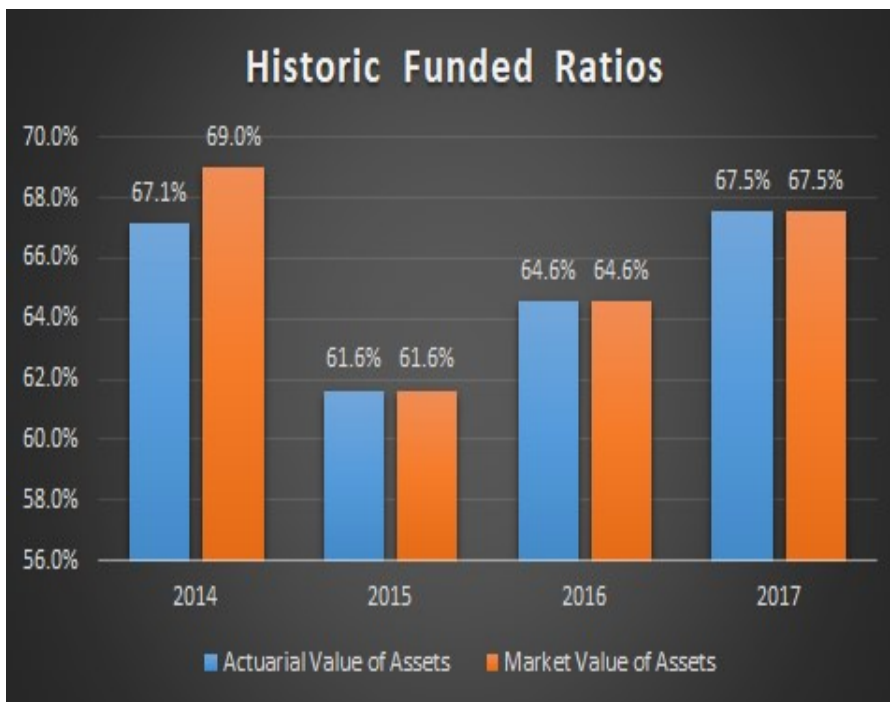
Please Note: For purposes of the Watch List, the term “inactive” includes terminated vested, retired, surviving beneficiary, disabled members, and for some plans, terminated nonvested members who have not withdrawn employee contributions.

FUNDED RATIO



AFFTON FIRE PROTECTION DISTRICT RETIREMENT PLAN

- Rate of return on investments equaled 15.1% (Market) vs. 6.5% assumed.
- Updated mortality tables, which increased actuarial accrued liability by \$328,106. This increase, in addition to another actuarial loss, was partially offset by investment return.
- The actuary writes that the “unfunded accrued liability remained relatively stable...”
- Employer contribution is funded by a property tax levy. At the April 2017 election, the voters adopted an increase in the tax levy of twenty-five cents.
- Effective with the 1/1/16 valuation, the actuarial cost method was changed from the Aggregate method to the Entry Age Normal Method with a 30-year open amortization of the unfunded liability.
- Plan provisions were modified effective 01/01/13. The benefit multiplier was changed from 2.1667% to 1.7333%. Accrued benefits are not modified; however, new and prospective service will be at new provision levels. Lump sum benefit payments were also ceased.
- Employee contributions were implemented in 2010 at 4% and then 7% thereafter.



January 1,	<u>RECOMMENDED CONTRIBUTION</u>	<u>ACTUAL CONTRIBUTION</u>	<u>PERCENT CONTRIBUTED</u>
2017	\$440,154	\$310,020	70%
2016	\$453,879	\$300,389	66%
2015	\$315,183	\$304,357	97%
2014	\$248,521	\$300,403	120%

As of 1/1/18

Market Value: \$9,077,602
Actuarial Value: \$9,077,602
Liabilities: \$13,442,624

Membership:

Active: 38 **Inactive:** 29

Normal Retirement Formula:

1.7333% of 3-year average monthly compensation times service, maximum of 30 years.

Normal Retirement Eligibility:

Age 60 with 5 years of service

Social Security Coverage: Yes

COLA: No COLA

Assumed Rate of Return: 6.5%

Salary: 3.5%



Affton Fire Protection District

November 20, 2018

Mr. Michael Ruff, Executive Director
Joint Committee on Public Employee Retirements
State Capitol, Room 219-A
Jefferson City, MO 65101

RE: Affton Fire Protection District

Dear Mr. Ruff:

Thank you for your email of Tuesday, November 13, 2018, regarding Affton Fire Protection District.

Affton Fire Protection District, its Board of Directors and staff, fully understand the significance of the underfunded portion of the District's Plan, and the Board has recently made some decisions to aggressively address the issue.

Beginning this year, 2019, the Board of Directors has budgeted an additional \$700,000 to be taken from the General Fund to transfer to the Pension Fund to lower its unfunded liability.

While the present Board cannot bind future boards, it is the intent of the present Board to continue to add the same amount of money annually from the General Fund to the Pension Fund until such time as the underfunded liability is reduced to the point where we meet minimum funded ratios.

The District has recently engaged Nyhart as its Pension Plan Actuary, in an attempt to more aggressively address the underfunded Pension Plan which the Board inherited. We believe that that firm, and in particular its representative, Nick Meggos, will give the District a fresh and creative prospective on addressing the needs of the District Pension Plan.

Should you have any questions, please contact me. We are happy to cooperate with JCPER.

Very truly yours,

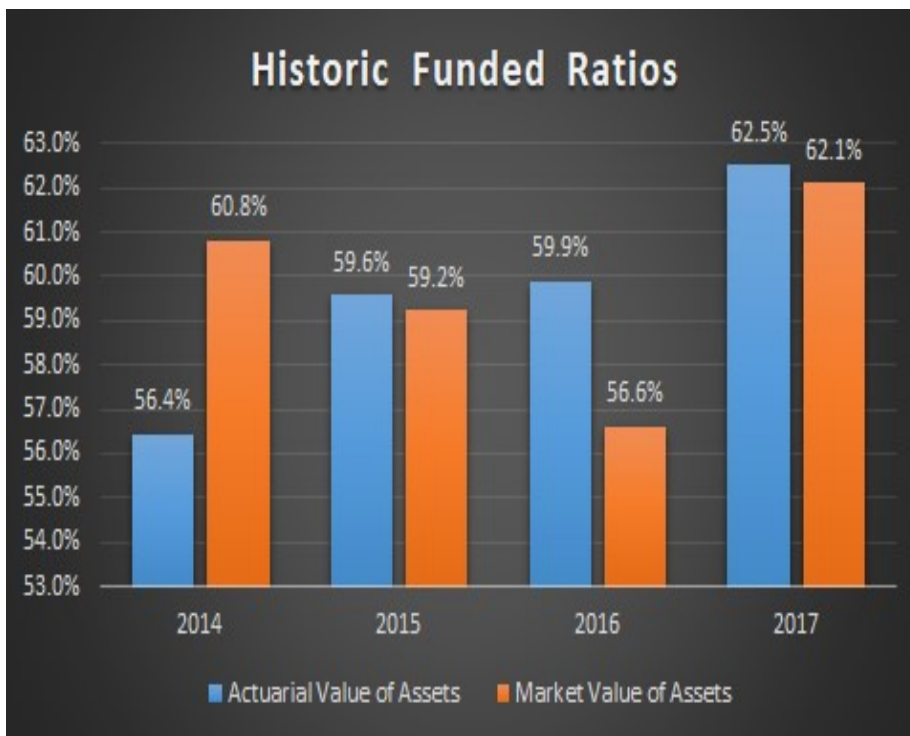
Nickolas Fahs, Fire Chief

cc: Nick Meggos
Frank J. Vatterott
John Hefe

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BI-STATE DEVELOPMENT AGENCY DIVISION 788, A.T.U.

- Rate of return on investments equaled 13% (Market) and 7.4% (Actuarial) vs. 7% assumed.
- Effective with the 4/1/16 valuation, the assumed rate of return was lowered from 7.25% to 7%.
- Unfunded Actuarial Accrued Liability is amortized on a closed 30-year period effective April 1, 2003.
- At its 11/3/16 meeting, the Pension Committee adopted a total weekly contribution rate of \$175 per active participant.
- The Employer continues to meet the full ADC.
- Effective April 1, 2015, this plan merged with the 788 Clerical Unit ATU plan pursuant to a resolution and vote of the membership and acceptance by the plans' pension committees. The Clerical Unit ATU plan had previously been on the JCPER Watch List.
- The contribution history below is taken from the plan's 3/31/17 Financial Statements (pg. 25), which revised the contribution history to include the previous amounts from the Clerical Plan.



FY ending 6/30,	<u>EMPLOYER RECOMMENDED CONTRIBUTION</u>	<u>EMPLOYER ACTUAL CONTRIBUTION</u>	<u>PERCENT CONTRIBUTED</u>
2017	\$9,626,600	\$9,626,600	100%
2016	\$9,342,714	\$9,342,714	100%
2015	\$9,199,407	\$9,199,407	100%
2014	\$9,249,791	\$9,249,791	100%
2013	\$8,157,204	\$8,157,204	100%

As of 4/1/17

Market Value: \$128,425,595

Actuarial Value: \$129,194,067

Liabilities: \$206,616,631

Membership:

Active: 1,383 **Inactive:** 1,334

Normal Retirement Formula:

\$40 times years of service for those retiring with less than 25 years of service. \$55 times years of service for those retiring with 25 or more years of service.

Normal Retirement Eligibility:

25 years of service, age 65, or age 55 with 20 years of service.

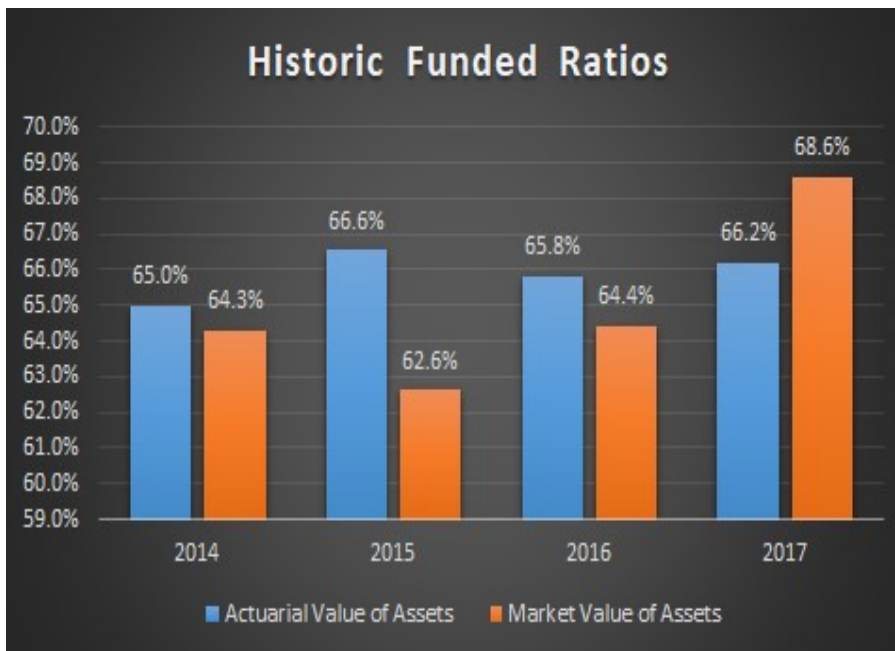
Social Security Coverage: Yes

COLA: Ad hoc COLA

Assumed rate of return: 7%

BRIDGETON EMPLOYEES RETIREMENT PLAN

- Rate of return on investments equaled 11.7% (Market) and 5.6% (Actuarial) vs. assumed 7.5%.
- The plan was frozen to new employees as of January 1, 2012. For employees hired after 1/1/12, the City uses a matching component to its 457 deferred compensation plan.
- Effective with the 1/1/18 valuation, the City has changed its funding policy by adopting a 30-year closed amortization period for payment of unfunded liabilities.
- In April 2015, voters approved a hotel/motel tax increase to generate an additional \$900,000 in revenue annually.
- The Employer has not met the ARC since 2007.
- The actuary comments that “the chief reasons for the increase in annual cost as a percentage of payroll [sic] the fact that the payroll is declining as the plan is closed to new entrants.”
- The State Auditor audited the plan in 2016 with an overall performance rating of Poor. The State Auditor issued a follow up report in November 2017; most recommendations have been implemented or partially implemented.



January 1,	<u>RECOMMENDED CONTRIBUTION</u>	<u>ACTUAL CONTRIBUTION</u>	<u>PERCENT CONTRIBUTED</u>
2018	\$1,697,999	N/A	N/A
2017	\$1,687,909	\$1,680,000	99.5%
2016	\$1,680,519	\$1,525,000	91%
2015	\$1,750,340	\$1,200,000	68%
2014	\$1,740,187	\$1,000,000	57%

As of 1/1/18

Market Value: \$30,321,918*

Actuarial Value: \$29,267,977

Liabilities: \$44,190,819

Membership:

Active: 88 **Inactive:** 162

Normal Retirement Formula:

2% of compensation times years of service

Normal Retirement Eligibility:

Age 60 with 5 years of service

Social Security Coverage: Yes

COLA: No COLA

Assumed Rate of Return: 7.5%

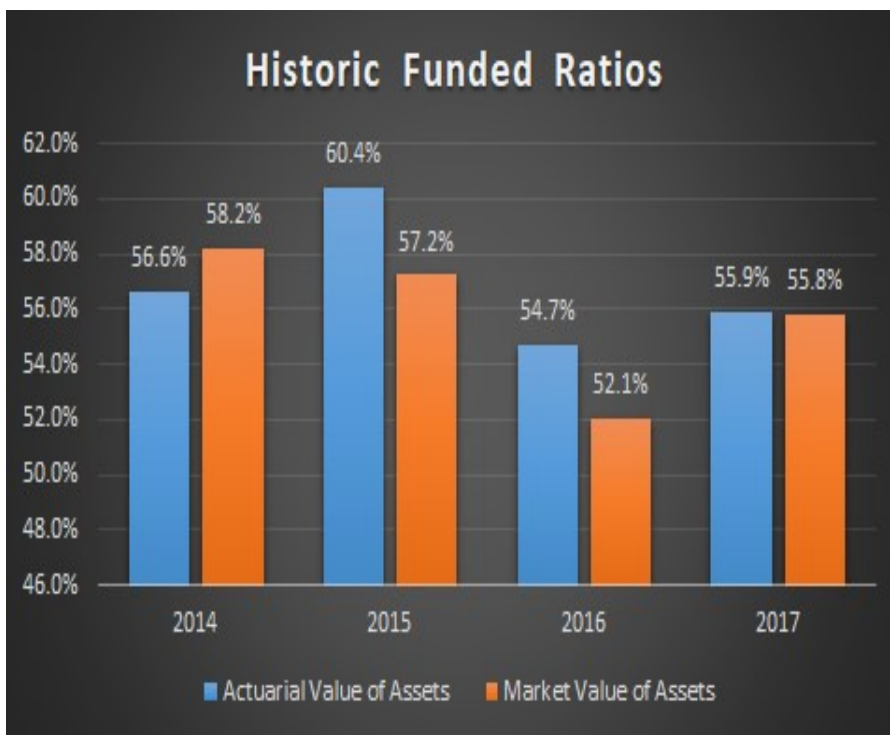
Salary: 4%

*Market Value from 1/1/18 actuarial valuation including accrued contribution of \$1,680,000.

COLUMBIA FIREMEN & POLICE RETIREMENT SYSTEMS

- The Fire and Police plans are commingled for investment purposes. Rate of return on investments equaled 11.1% (Market) & 5.7% (Actuarial) vs. 7% assumed. Investment gains/losses are smoothed over a four-year period.
- The plan's actuary completed a five year experience study for the period 10/1/10—9/30/15. The board modified economic and demographic assumptions, including lowering assumed rate of return from 7.5 to 7 and payroll growth from 3.5 to 3.25, and changing the amortization period for unfunded liabilities from 23 years to 30 years.
- The employer continues to meet or exceed the ADC. For fiscal year 2015, the City contributed an additional \$5 million in excess of the recommended contribution, divided between the two plans. The actuary notes that "For the continued well-being of the fund, the fund must receive contributions at least at the levels recommended in the actuarial valuation."
- A new tier of provisions were passed for employees hired on or after October 1, 2012. These provisions include, but are not limited to, modified age and service requirements for retirement eligibility, modified benefit multiplier with no retiree COLA, fire member contribution reduced to 4% of pay, and automatic survivor benefit replaced with a survivor option at retirement with member's reduced benefit. The actuary notes that "employer normal cost contributions will decrease as a percentage of payroll as more active members become covered under the post October 1, 2012 benefit provisions."
- Fire employees contribute 16.32% of pay (4% for those hired on/after 10/01/12) and do not participate in Social Security.
- Police employees contribute between 7.45% & 8.35% of pay (4.5% for those hired on/after 10/01/12) & do participate in Social Security.

FIREMEN'S RETIREMENT FUND



Fire as of 9/30/17

Market Value: \$78,463,607
Actuarial Value: \$78,564,441
Liabilities: \$140,441,760

Membership:

Active: 142 **Inactive:** 158

Normal Retirement Formula:

3.5% of compensation for the first 20 years + 2% for the next 5 years. Max of 80% of compensation.

Hired on/after 10/1/12: 2.5% of compensation times years of service. No max benefit.

Normal Retirement Eligibility:

Age 65 or 20 years of service

Hired on/after 10/1/12: Age 55 with 1 year of service. Rule of 80.

COLA Annual Minimum: 2%

Social Security Coverage: No

Assumed Rate of Return: 7%

Salary: 3.25%

Year Ending 9/30,	RECOMMENDED CONTRIBUTION	ACTUAL CONTRIBUTION	PERCENT CONTRIBUTED
2017	\$4,789,910	\$4,789,910	100%
2016	\$5,226,250	\$5,226,250	100%
2015	\$4,751,496	\$7,751,496	163%
2014	\$4,674,412	\$4,674,412	100%

COLUMBIA FIREMEN & POLICE RETIREMENT SYSTEMS (Continued)

POLICE RETIREMENT SYSTEM

Police as of 9/30/17

Market Value:	\$52,261,817	Membership:	Assumed Rate of Return: 7%
Actuarial Value:	\$52,328,979	Active: 151	Salary: 3.25%
Liabilities:	\$93,482,886	Inactive: 184	Social Security Coverage: Yes

Normal Retirement Formula: 3% of Compensation for the first 20 years of service plus 2% of compensation for the next 5 years of service.

Hired on/after 10/1/12: 2% of compensation for the first 25 years of service plus 1.5% of compensation for each year over 25. Max of 57.5% of compensation.

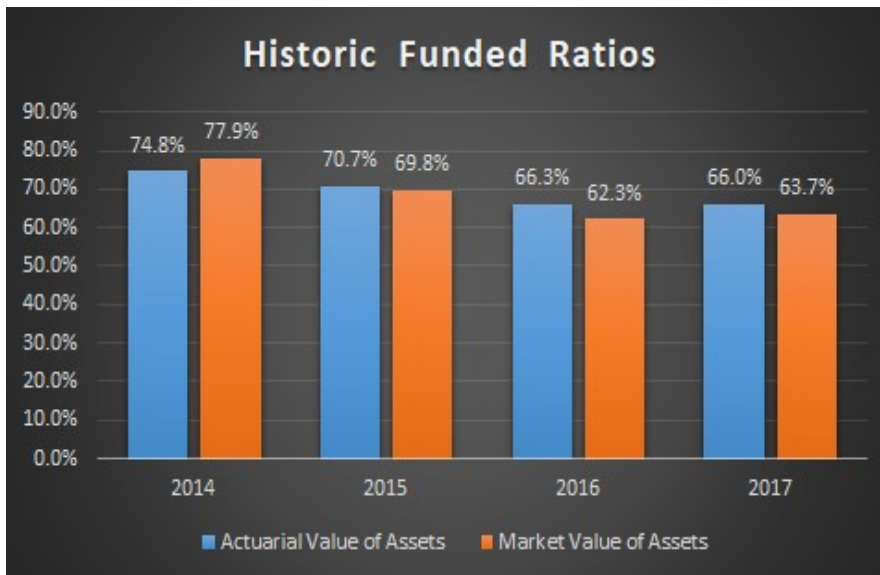
Normal Retirement Eligibility: 20 years of service or age 65. Hired on/after 10/1/12: 25 years of service or age 65.

Historic Funded Ratios



Year ending 9/30,	RECOMMENDED CONTRIBUTION	ACTUAL CONTRIBUTION	PERCENT CONTRIBUTED
2017	\$3,365,161	\$3,365,161	100%
2016	\$3,812,192	\$3,812,192	100%
2015	\$3,486,784	\$5,486,784	157%
2014	\$3,245,420	\$3,245,420	100%

- Investment return equaled 9% (market) and 6.2% (actuarial) vs. 7.25% assumed.
- The plan made two assumption changes: updated mortality tables and lowered the assumed rate of return for investments from 7.25 to 7. The actuary writes “these changes were made to update the assumptions to our best estimates of future experience.”
- In the prior year, the plan reduced the assumed rate of return from 7.5 to 7.25.
- Effective with the July 1, 2015 valuation, the plan changed its cost method from Aggregate to Entry Age Normal with a 20-year open amortization period for unfunded liabilities.
- The plan is funded from two sources: a dedicated property tax levy and an employee contribution of 3.25%. The actuary writes that “these are at this time fixed sources of revenue, which are not tied to actuarial experience of this plan, and are not tied to the actuarially recommended contribution.”
- The tax levy has only produced sufficient revenue to meet the full annual required contribution one time (2007) since 2002. Current tax rate of \$0.08 (residential and commercial) and \$0.1 (personal) per \$100 of assessed valuation.
- The City’s Financial Statements state that “With the plan approximately three million underfunded it has been decided by the Pension Board that steps need to be taken to reduce the underfunded amount. The steps to be taken have yet to be determined as of this writing. Currently, the City is considering the...Plan joining the MO LAGERS system, but how to fund the underfunded amount is the sticking point.”



Year Ending 6/30,	RECOMMENDED CONTRIBUTION	ACTUAL CONTRIBUTION	PERCENT CONTRIBUTED
2018	\$376,231	N/A	N/A
2017	\$370,101	\$130,456	35%
2016	\$333,799	\$130,235	39%
2015	\$294,386	\$130,695	45%
2014	\$305,702	\$127,993	42%

As of 7/1/17	
Market Value:	\$5,195,067
Actuarial Value:	\$5,378,273
Liabilities:	\$8,143,480
Membership:	
Active:	24
Inactive:	21
Normal Retirement Formula: 50% of compensation for the first 20 years of service plus 1% of compensation for each year over 20 years.	
Normal Retirement Benefits: Age 55 with 15 years of service	
Social Security Coverage: Yes	
COLA: No COLA	
Assumed Rate of Return: 7%	
Salary: 3.5%	

From: [Daniel Lawrence](#)
To: [Michael Ruff](#)
Cc: ["Andrew Witte"](#); [Benjamin DeClue](#)
Subject: RE: Glendale Police & Fire Pension Plan
Date: Tuesday, November 13, 2018 2:06:35 PM

Dear Mr. Ruff:

New for FY 2019, the Board of Alderman has budgeted \$250,000 of the City of Glendale's Prop P funds to be contributed to the Pension Plan for the FYE 6/30/2019. This is in addition to the property tax and employee contribution. This will be broken up in equal monthly payments of \$20,833.33 beginning July, 2018 through June, 2019. All payments are up to date.

Thank you,

Dan Lawrence
Finance Officer

From: Michael Ruff [mailto:mruff@senate.mo.gov]
Sent: Tuesday, November 13, 2018 11:37 AM
To: Daniel Lawrence; Andrew Witte
Subject: Glendale Police & Fire Pension Plan

Dear Mr. Lawrence and Mr. Witte,

Each year, the Joint Committee on Public Employee Retirement (JCPER) staff compiles a report for the committee's review that includes any defined benefit retirement plan that has a funded ratio of less than 70% on a market value basis. We have used information submitted to the JCPER as part of the plan year 2016 annual survey to prepare this report. This report is designed to increase awareness of trends in plan funding and contribution levels.

I am attaching an information sheet relating to the Glendale Police & Fire Pension Plan that will be presented to the JCPER at its fourth quarter meeting on Monday, December 3, 2018 at 10:30am in House Hearing Room 6. Please feel free to review this information and respond with any additional information or thoughts you deem appropriate. If you would like to respond, please provide any information or comments by Monday, November 26.

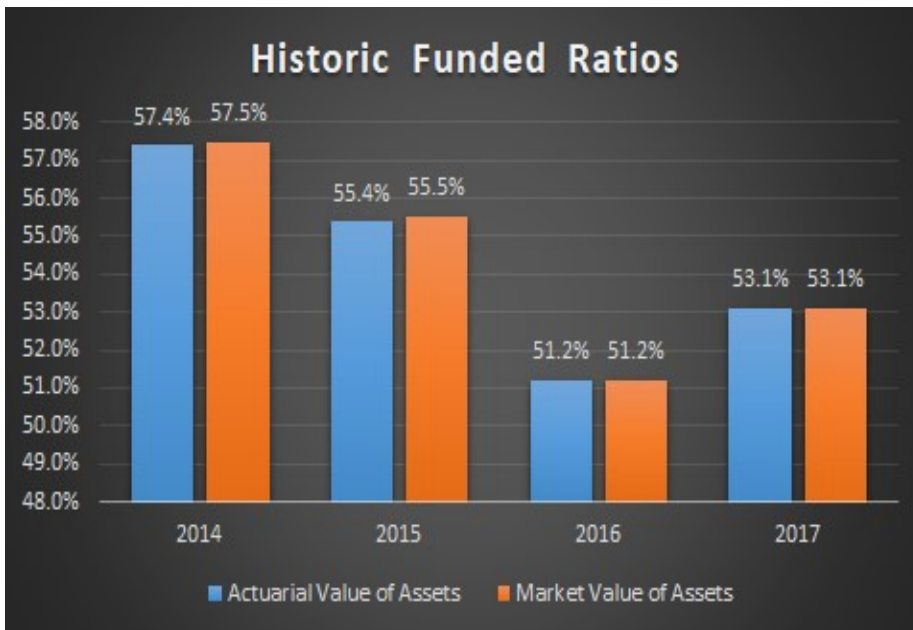
Thank you for your consideration and ongoing cooperation with the JCPER. Please do not hesitate to contact me if you have any questions or would like additional information.

Sincerely,

Michael Ruff
Executive Director
Joint Committee on Public Employee Retirement
State Capitol, Room 219-A
Jefferson City, MO 65101
573-751-1280

HANNIBAL POLICE & FIRE RETIREMENT PLAN

- Rate of return on investments equaled 9.7% (Market) vs. 7% assumed.
- The plan does not smooth investment gains/losses.
- The plan's actuary writes "Over the last six years, the city has contributed well in excess of the recommended contribution, and as expected, the funded ratio of the plan has gradually increased. Last year, in the 2016 valuation, the funding interest rate was lowered, and generational mortality was introduced. These more conservative assumptions will require more robust contributions, which, if made, will cause the plan to continue to improve its funded status."
- Effective with the July 1, 2016 valuation, the plan lowered the assumed rate of return for investments from 7.5 to 7, updated mortality tables, and adopted a closed 20-year amortization policy with fixed bases for payment of unfunded liabilities.
- Plan members do not participate in Social Security.
- The City changed the Plan to permit contracting with Standard Insurance for disability coverage.
- Effective July 1, 2016, the employee contribution rate will increase by one-half percent annually until it reaches 15% on July 1, 2021.
- The City made multiple plan modifications effective 7/1/11 including: Increasing mandatory employee contributions from 9.5% of pay to 12%, 11.4% annual minimum City contribution (plus tax revenue) will be modified to provide that the City's contribution will not be reduced unless the plan is determined to be at least 80% funded.



Year ending 6/30,	<u>RECOMMENDED CONTRIBUTION</u>	<u>ACTUAL CONTRIBUTION</u>	<u>PERCENT CONTRIBUTED</u>
2017	\$1,193,766	\$1,276,452	107%
2016	\$1,066,446	\$1,264,977	119%
2015	\$984,663	\$1,183,568	120%
2014	\$994,809	\$1,214,217	122%
2013	\$1,010,251	\$1,212,249	120%

As of 7/1/17

Market Value: \$16,613,574

Actuarial Value: \$16,613,574

Liabilities: \$31,277,416

Membership:

Active: 76 Inactive: 69

Normal Retirement Formula:

65% of compensation for the first 25 years of service plus 1% for each of the next 5 years of service in excess of 25. Max of 70% of compensation.

Normal Retirement Eligibility:

Age 55 or 25 years of service

Social Security Coverage: No

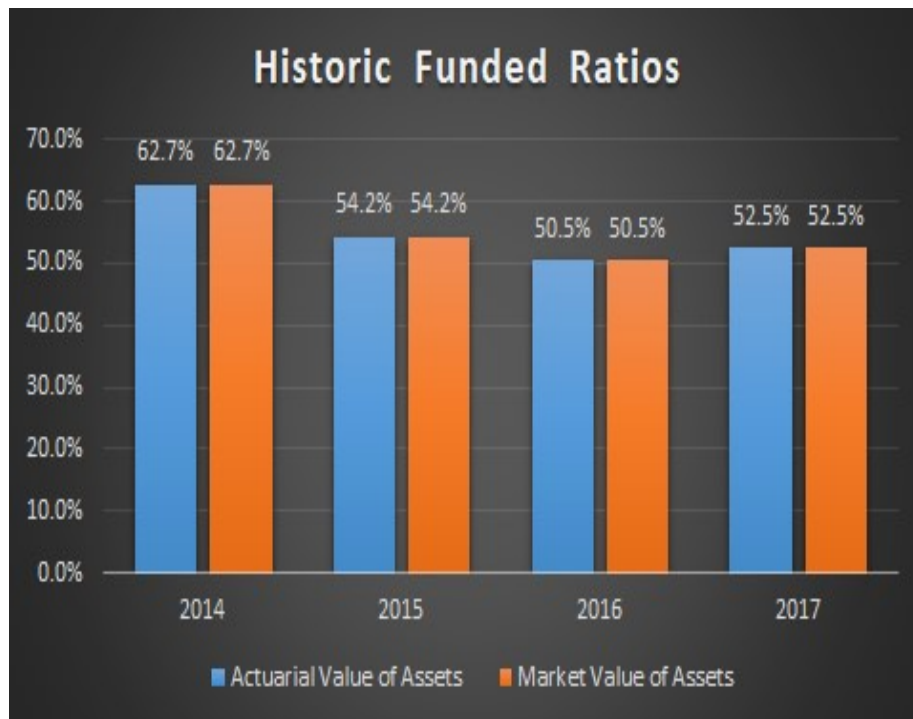
COLA: Ad hoc COLA. No COLA if funded ratio is below 50%

Assumed Rate of Return: 7%

Salary: 3.5%

JENNINGS POLICE & FIRE RETIREMENT FUND

- Rate of return on investments equaled 14.2% (Market) vs. 7.25% assumed.
- The City entered into an agreement with LAGERS to transfer administration of the plan to LAGERS under section 70.621 effective 12/1/17. LAGERS has established a closed 15-year payment plan with a level contribution rate of approximately \$242,000 to satisfy all obligations and pay all benefits.
- Funded ratio has been decreasing since 1996 (94.29% in 1996, 52.5% as of 12/31/16). The City has met the ARC two years (2010 & 2011) since 1999. The contribution is tied to a tax levy. At the April 2016 election, voters approved a property tax increase of 12.5 cents, from 24.5 cents to 37 cents. In 2016, the City's prior actuary projected the fund to be solvent through its remaining lifetime.
- Plan was closed in 1987 with new hires joining LAGERS. No active members remain in the plan; all members are now retired.
- The Police Department was disbanded in 2011 with the St. Louis County Police Department being contracted for public safety purposes. Voters approved the dissolving of the Fire Department in August 2014 with the city cooperating with Riverview FPD for fire services.



Yr End- ing 3/31,	<u>RECOMMENDED CONTRIBUTION</u>	<u>ACTUAL CONTRIBUTION</u>	<u>PERCENT CONTRIBUTED</u>
2016	\$462,216	\$189,890	41%
2015	\$345,068	\$194,976	57%
2014	\$315,629	\$195,337	62%
2013	\$244,685	\$203,049	83%
2012	\$209,394	\$203,184	97%
2011	\$201,076	\$210,405	105%

As of 12/31/16

Market Value: \$3,760,592

Actuarial Value: \$3,760,592

Liabilities: \$7,160,677

Membership:

Active: 0 Inactive: 39

Normal Retirement Formula:

2.25% of compensation times years of service. Maximum of 50% of compensation.

Normal Retirement Eligibility:

Age 55 with 20 years of service

Age 65 with 15 years of service

Social Security Coverage: Yes

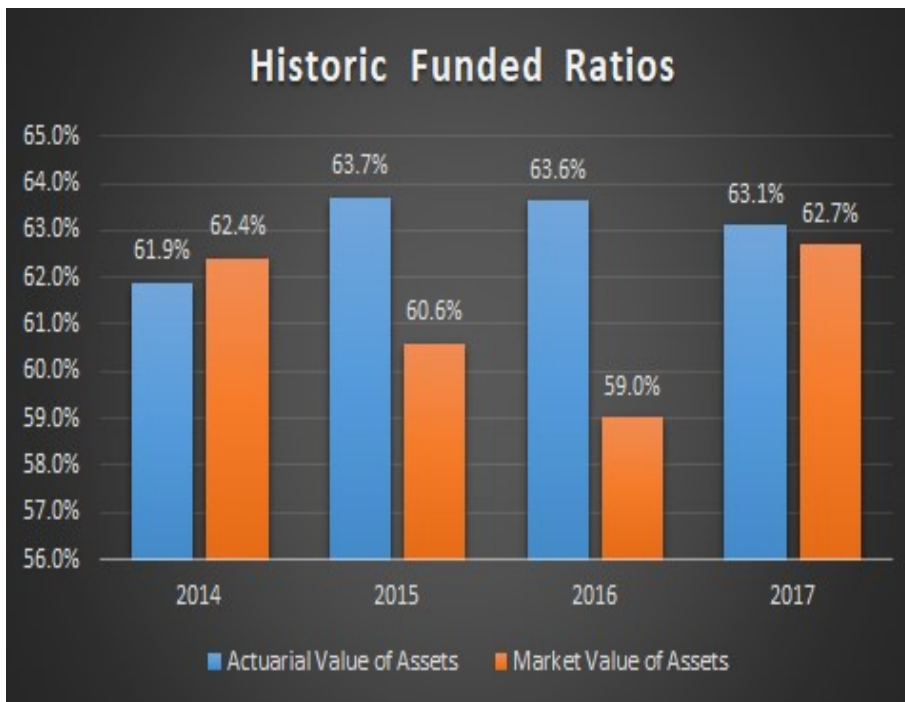
COLA: No COLA

Assumed rate of return: 7.25

The City closed the plan in 1987 with new hires joining LAGERS.

JOPLIN POLICE & FIRE PENSION PLAN

- Rate of return on investments equaled 13.9% (Market) & 6.3% (Actuarial) vs. 7% assumed.
- Completed a 5-year experience study for the period 11/1/11 to 10/31/16. Updated mortality tables and lowered the assumed rate of return from 7% to 6.75%. These changes resulted in an increase in liabilities of \$1.8 million and an employer contribution rate increase of 1.67% of payroll.
- Closed 30-year period as of 11/01/06 for amortization of unfunded liabilities.
- A new tier was implemented for those hired after 1/31/09 with provisions including normal retirement service of 25 years (from 20) and maximum benefit of 60% of compensation (from 65%).
- Employees contribute 18.08% of pay, which is refunded at retirement. Those hired under new benefit tier contribute 10% of pay without refund.
- The actuary comments "Given the importance of benefit security to any retirement system, we suggest that contributions to the Plan in excess of those presented in this report be considered."



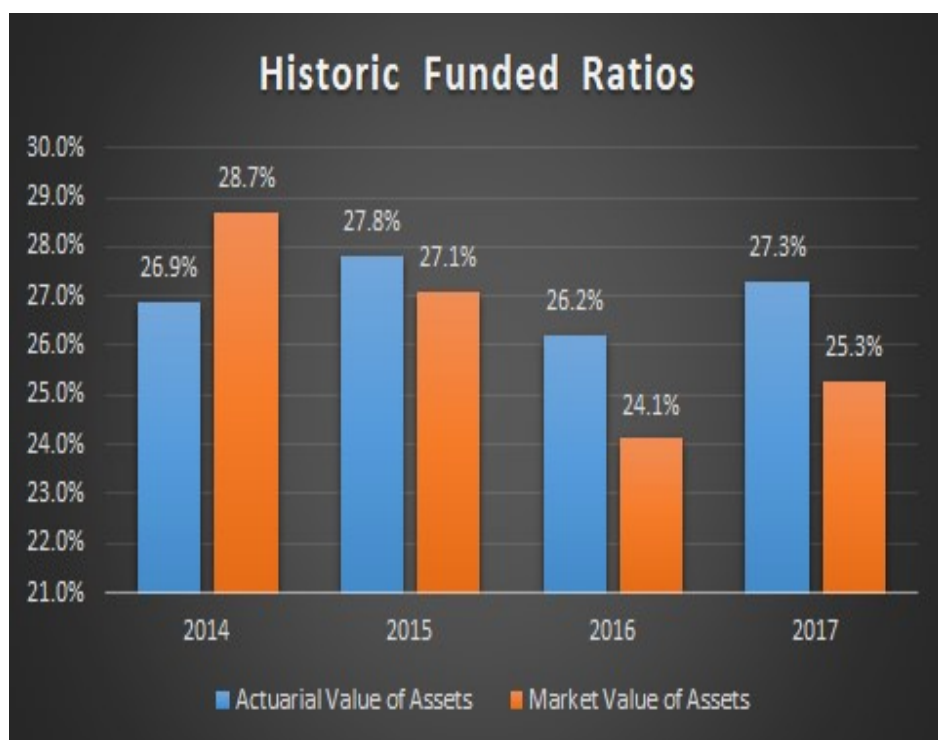
As of 10/31/17	
Market Value:	\$40,142,727
Actuarial Value:	\$40,447,108
Liabilities:	\$64,017,311
Membership:	
Active:	191
Inactive:	162
Normal Retirement Formula:	
Hired after 1/31/09: 2.2% of compensation for the first 25 years of service plus 1% for the next 5 years of service. Maximum 60% of compensation.	
Hired before 1/31/09: 2.5% of compensation for the first 20 years plus 1% for each of the next 5 years. Maximum 65% of compensation.	
Normal Retirement Eligibility:	
Hired after 1/31/09: Age 60 or 25 YOS	
Hired before 1/31/09: 20 YOS	
Social Security Coverage: No	
COLA: No COLA	
Assumed rate of return: 6.75	
Salary: 2.5	

FY End- ing 10/31,	RECOMMENDED CONTRIBUTION*	ACTUAL CONTRIBUTION*	PERCENT CONTRIBUTED
2019	\$2,814,812	N/A	N/A
2018	\$2,706,972	N/A	N/A
2017	\$2,657,867	\$2,601,983	97.8%
2016	\$2,708,565	\$2,619,993	96.7%
2015	\$2,721,986	\$2,662,322	97.8%
2014	\$2,737,752	\$2,919,862	107%

*Contribution information is taken from Actuarial Valuation Report as of October 31, 2017, Page I-2, Schedule of Employer Contributions

JUDICIAL RETIREMENT SYSTEM

- For the year ending 6/30/18, rate of return on investments equaled 7.71% (Market) and 5.51% (Actuarial) vs. 7.5% assumed.
- In June 2018, the system's actuary completed a study of the system's economic assumptions. Lowered the assumed rate of return from 7.5 to 7.25 with two planned annual decreases of 0.15 until the rate reaches 6.95. Lowered general wage growth from 3.0 to 2.75.
- Modified the method of amortizing the UAAL from a closed 30 (6/30/2014) to a layered approach. The cumulative UAAL was established as an initial base to be amortized over 30 years with each year's gains/losses amortized as an additional layer over 30 years.
- Modified the asset smoothing method from an open five-year period to a closed five-year period. Existing unrecognized investment experience as of 6/30/18 will be recognized over a closed seven-year transition period.
- New tier provisions were passed in 2010 requiring increased age and service requirements, as well as employee contributions of 4% for judges serving for the first time on or after 01/01/11.
- Previously, the Board of Trustees voted to certify an annual contribution rate minimum of 58.45% of payroll until the plan's funded ratio is at least 80%.
- Prior to 1998, the plan was funded on a pay-as-you-go basis.



FY Ending 6/30,	RECOMMENDED CONTRIBUTION	ACTUAL CONTRIBUTION	PERCENT CONTRIBUTED
2018	\$36,892,203	\$36,892,203	100%
2017	\$32,670,710	\$34,246,826	104.8%
2016	\$31,604,527	\$33,642,497	106%
2015	\$32,696,686	\$32,696,686	100%
2014	\$29,264,877	\$29,264,877	100%

As of 6/30/18

Market Value: \$150,199,575
Actuarial Value: \$162,135,045
Liabilities: \$593,788,592

Membership:

Active: 415 **Inactive:** 595

Normal Retirement Formula:

50% of compensation. Less than service requirement=pro-rated benefit based on service

Normal Retirement Eligibility:

Age 62 with 12 years of service
 Age 60 with 15 years of service
 Age 55 with 20 years of service

Serving for the first time on/after 1/1/11:

Age 67 with 12 years of service
 Age 62 with 20 years of service

Social Security Coverage: Yes

COLA: Annual max 5%, 80% CPI

Assumed rate of return: 7.25

Salary: 2.75



Missouri State Employees' Retirement System

Mailing Address
PO Box 209
Jefferson City, MO 65102-0209

Office Location
907 Wildwood Drive
Jefferson City, MO 65109

November 26, 2018

Mr. Michael Ruff, Executive Director
Joint Committee on Public Employee Retirement
State Capitol, Room 219-A
Jefferson City, MO 65101

Dear Michael:

Thank you for the opportunity to respond to the inclusion of the Judicial Retirement Plan (Judicial Plan) on the annual "Watch List" of the Joint Committee on Public Employee Retirement (JCPER). We would like to offer the following information for the Committee's review.

As you are aware, the Judicial Plan was operated on a pay-as-you-go basis prior to 1998 when the law was changed to require that the plan be funded on an actuarial basis. The funded status of the Judicial Plan was approximately 0% in 1999 and has increased to the June 30, 2018 funded ratio of 27.3%.

In June 2018, the MOSERS Board of Trustees adopted a policy to reduce the Judicial plan's investment rate of return assumption from 7.5% to 7.25% effective with the June 30, 2018 actuarial valuation. This policy provides for an annual reduction of the plan's investment rate of return assumption by 15 basis points until reaching 6.95% for the June 30, 2020 actuarial valuation (see table below).

Actuarial Valuation Date	Employer Contribution Applied	ROR Assumption	ROR Assumption (without Inflation Assumption)
June 30, 2018	FY20	7.25%	4.75%
June 30, 2019	FY21	7.10%	4.75%
June 30, 2020	FY22	6.95%	4.70%

This board-adopted policy is intended to more closely align the fund's investment return assumption with future capital market expectations. While public pension funds across the state and nation are re-evaluating the appropriate level of investment return assumption to reduce the long-term investment risk, such reduction often requires an increased Employer Contribution Rate to the plan and results in a decreased Funded Ratio. The information contained in the June 30, 2018 annual actuarial valuation (see below) illustrates how a change in the investment return assumption rate can significantly affect the plan's Employer Contribution Rate and Funded Ratio.

JUDICIAL PLAN SENSITIVITY ANALYSIS					
Investment Return Assumption	6.25%	6.75%	7.25%	7.75%	8.25%
Total Employer Contribution (% of pay)	69.32%	66.46%	63.80%	61.35%	59.06%
Total Employer Contribution (\$ in millions)	\$43.6	\$41.8	\$40.1	\$38.6	\$37.2
Actuarial Value of Assets	\$162.1	\$162.1	\$162.1	\$162.1	\$162.1
Actuarial Accrued Liability	\$654.8	\$623.1	\$593.8	\$566.7	\$541.6
Funded Ratio	24.8%	26.0%	27.3%	28.6%	29.9%

2010 Pension Reform

As you are aware, the General Assembly passed pension reform relative to judges in the 2010 special session. This reform was implemented as the “Judicial Plan 2011” for judges serving for the first time on or after January 1, 2011. As included in the June 30, 2018 annual actuarial valuation, the ongoing annual cost of the **Judicial Plan 2011** (known as the “Employer Normal Cost”) is 16.42% of pay, compared to the **pre-2011** annual cost of 23.76% of pay. Approximately 37% of the 415 Judicial Plan active employees are Judicial Plan 2011 members.

Judicial Plan Actuarial Valuation Results as of 06/30/18	Percents of Payroll		
	Pre 01/01/11 Hires	Post 01/01/11 Hires	Weighted Average
Normal Cost	23.76%	20.42%	22.52%
Less Member Contributions	0.00%	4.00%	1.48%
Employer Normal Cost	23.76%	16.42%	21.04%
Unfunded Actuarial Accrued Liabilities (UAAL) (level percent-of-payroll amortization with layered bases)			42.76%
Total FY20 Computed Employer Contribution Rate			63.80%
Estimated Employer Contribution (\$ in Millions)			\$40.1

We hope this information is helpful to the JCPER as it conducts its proceedings. If you have any questions or we can provide additional information, please do not hesitate to contact our office.

Sincerely,

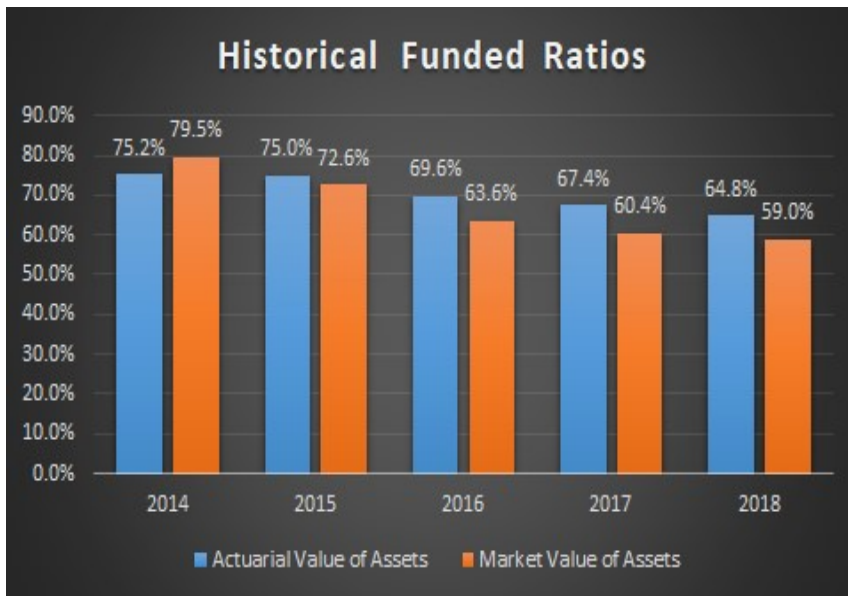


Ronda Stegmann
Executive Director

cc: MOSERS Board of Trustees

MISSOURI STATE EMPLOYEES' RETIREMENT SYSTEM

- For the year ending June 30, 2018, rate of return on investments equaled 7.48% (market) and 5.16% (actuarial) vs. 7.5% assumed.
- In June 2018, the system's actuary completed a study of the system's economic assumptions. Lowered the assumed rate of return from 7.5 to 7.25 with two planned annual decreases of 0.15 until the rate reaches 6.95. Lowered general wage growth from 3.0 to 2.75.
- Modified the method of amortizing the UAAL from a closed 30 (6/30/2014) to a layered approach. The cumulative UAAL was established as an initial base to be amortized over 30 years with each year's gains/losses amortized as an additional layer over 30 years.
- Modified the asset smoothing method from an open five-year period to a closed five-year period. Existing unrecognized investment experience as of 6/30/18 will be recognized over a closed seven-year transition period.
- The computed employer contribution rate as a percent of payroll increased to 21.77% for FY20 from 20.21%.
- The board implemented a terminated vested buy-out program authorized by SB 62 (2017), which resulted in a net liability reduction of approximately \$41 million. Over 4,300 terminated vested members participated. Reduced the actuarial contribution rate by 0.14% of payroll.
- New tier provisions were passed in 2010 requiring increased age and service requirements, as well as employee contributions of 4% for employees hired for the first time on or after 01/01/11. The actuary writes "...since all new employees are covered under a less costly benefit structure, until all new employees are covered under MSEP 2011 benefits, the normal cost percentage will continue to decrease."



Yr End- ing 6/30,	<u>RECOMMENDED CONTRIBUTION</u>	<u>ACTUAL CONTRIBUTION</u>	<u>PERCENT CONTRIBUT- ED</u>
2018	\$379,557,962	\$379,557,962	100%
2017	\$322,772,697	\$335,217,422	104%
2016	\$310,124,928	\$329,957,369	106%
2015	\$329,752,832	\$329,752,832	100%
2014	\$326,370,336	\$326,370,336	100%

As of 6/30/18

Market Value: \$8,034,508,424
Actuarial Value: \$8,830,410,210
Liabilities: \$13,612,763,961

Active Members: 47,806
Inactive Members: 80,212

Normal Retirement Formula:

MSEP 2000: 1.7% of compensation times years of service plus 0.8% to age 62 (temp benefit under Rule of 80)

Normal Retirement Eligibility: Age 62 with 5 years of service or Rule of 80. 2011 Tier: Age 67 with 5 years of service or Rule of 90

Social Security Coverage: Yes

COLA: Annual Max 5%, 80% of CPI

Assumed Rate of Return: 7.25

Salary: 2.75



Missouri State Employees' Retirement System

Mailing Address
PO Box 209
Jefferson City, MO 65102-0209

Office Location
907 Wildwood Drive
Jefferson City, MO 65109

November 26, 2018

Mr. Michael Ruff, Executive Director
Joint Committee on Public Employee Retirement
State Capitol, Room 219-A
Jefferson City, MO 65101

Dear Michael:

Thank you for the opportunity to respond to the inclusion of the Missouri State Employees' Retirement System (MOSERS) on the annual "Watch List" of the Joint Committee on Public Employee Retirement (JCPER). We would like to offer the following information for the Committee's review.

In June 2018, the MOSERS Board of Trustees adopted a policy to reduce MOSERS' investment rate of return assumption from 7.5% to 7.25% effective with the June 30, 2018 actuarial valuation. This policy provides for an annual reduction of the plan's investment rate of return assumption by 15 basis points until reaching 6.95% for the June 30, 2020 actuarial valuation (see table below).

Actuarial Valuation Date	Employer Contribution Applied	ROR Assumption	ROR Assumption (without Inflation Assumption)
June 30, 2018	FY20	7.25%	4.75%
June 30, 2019	FY21	7.10%	4.75%
June 30, 2020	FY22	6.95%	4.70%

This board-adopted policy is intended to more closely align the fund's investment return assumption with future capital market expectations. While public pension funds across the state and nation are re-evaluating the appropriate level of investment return assumption to reduce the long-term investment risk, such reduction often requires an increased Employer Contribution Rate to the plan and results in a decreased Funded Ratio. The information contained in the June 30, 2018 annual actuarial valuation (see below) illustrates how a change in the investment return assumption rate can significantly affect the plan's Employer Contribution Rate and Funded Ratio.

MOSERS SENSITIVITY ANALYSIS					
Investment Return Assumption	6.25%	6.75%	7.25%	7.75%	8.25%
Total Employer Contribution (% of pay)	26.77%	24.22%	21.77%	19.42%	17.15%
Total Employer Contribution (\$ in millions)	\$548.3	\$496.1	\$445.9	\$397.7	\$351.3
Actuarial Value of Assets	\$8,830.4	\$8,830.4	\$8,830.4	\$8,830.4	\$8,830.4
Actuarial Accrued Liability	\$15,160.3	\$14,352.2	\$13,612.8	\$12,934.6	\$12,311.5
Funded Ratio	58.2%	61.5%	64.9%	68.3%	71.7%

Phone: (573) 632 - 6100 • (800) 827 - 1063
Relay Missouri: 7-1-1 (Voice) • (800) 735 - 2966 (TTY)
Email: mosers@mosers.org • Website: www.mosers.org

2010 Pension Reform

As you are aware, the General Assembly passed pension reform relative to state employees in the 2010 special session. This reform was implemented as the "MSEP 2011" for state employees hired for the first time on or after January 1, 2011. As included in the June 30, 2018 annual actuarial valuation, the ongoing annual cost of the **MSEP 2011** (known as the "Employer Normal Cost") is 3.94% of pay, compared to the **pre-2011** annual cost of 9.03% of pay. Approximately 43% of the 47,806 MOSERS' active employees are MSEP 2011 members.

Actuarial Valuation Results as of 06/30/18	Percents of Payroll		
	<u>MSEP & MSEP 2000</u>	<u>MSEP 2011</u>	<u>Weighted Average</u>
Normal Cost	9.03%	7.94%	8.62%
Less Member Contributions	0.00%	4.00%	1.50%
Employer Normal Cost	9.03%	3.94%	7.12%
Unfunded Actuarial Accrued Liabilities (UAAL) (level percent-of-payroll amortization with layered bases)			14.65%
Total FY20 Computed Employer Contribution Rate			21.77%
Estimated Employer Contribution (\$ in Millions)			\$445.9

We hope this information is helpful to the JCPER as it conducts its proceedings. If you have any questions or we can provide additional information, please do not hesitate to contact our office.

Sincerely,

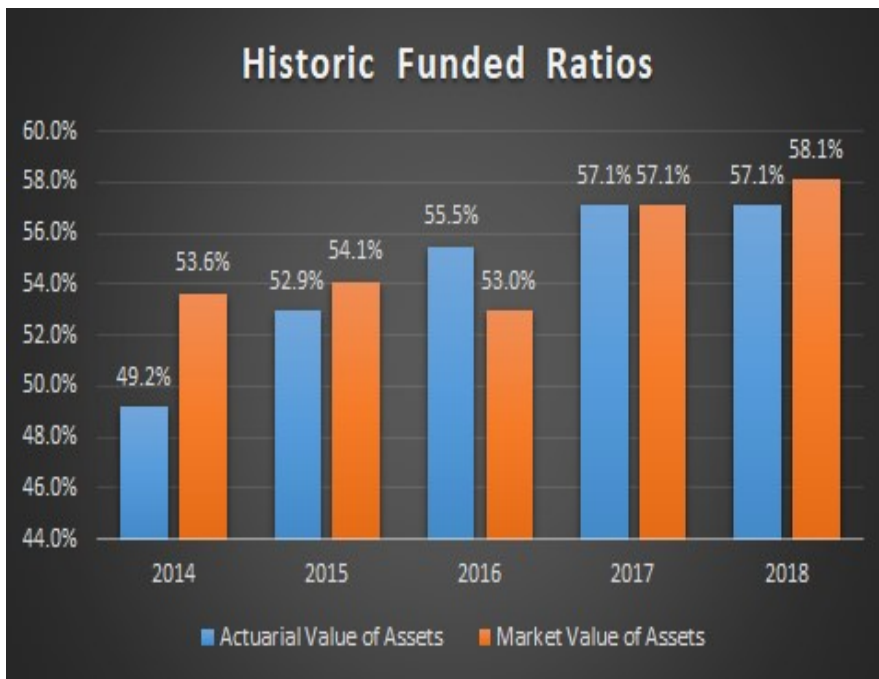


Ronda Stegmann
Executive Director

cc: MOSERS Board of Trustees

MoDOT & HIGHWAY PATROL EMPLOYEES' RETIREMENT SYSTEM

- Rate of return on investments equaled 9.2% (Market) and 7.1% (Actuarial) vs. 7.75% assumed.
- Completed a 5-year experience study for the period July 1, 2012 to June 30, 2017. Lowered the assumed rate of return from 7.75 to 7. Updated mortality tables. Adjusted additional assumptions including: price inflation, withdrawal, disability, retirement rate, and wage increases due to merit and longevity.
- The actuary writes "In accordance with changes in actuarial standards along with more recent changes in future economic conditions, we recommend that economic assumptions be reviewed annually each spring before the next valuation cycle begins."
- The board implemented a terminated vested buy-out program as authorized by SB 62 (2017).
- New tier provisions were passed in 2010 requiring increased age and service requirements, increased vesting period and employee contributions for employees hired for the first time on or after 01/01/11. As of 06/30/18, 2,513 active members were covered under the 2011 tier.
- Employees hired for the first time on or after 1/1/11 contribute 4% of pay.
- As of 6/30/18, closed 6-year amortization period for unfunded retiree liabilities and closed 21-year amortization period for the remaining unfunded liabilities (for the plan year beginning 7/1/19).
- In September 2014, the Board established a "rate stabilization reserve fund" from experience gains to attempt to maintain the employer contribution rate at or close to its current level.
- The Employer continues to meet the ADC.

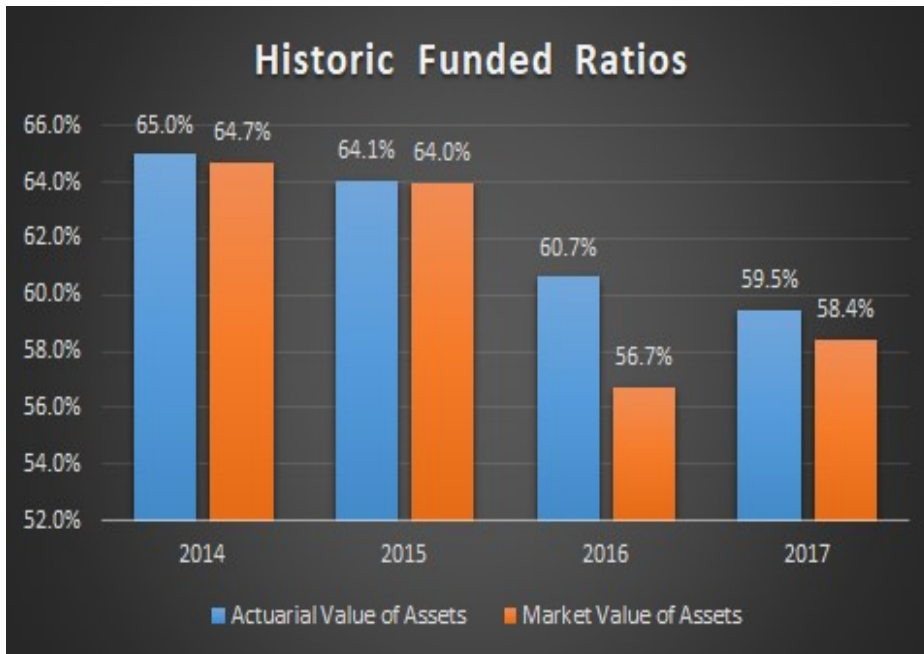


As of 6/30/18	
Market Value:	\$2,314,530,148
Actuarial Value:	\$2,274,248,122
Liabilities:	\$3,981,838,941
Membership:	
Active: 7,391 Inactive: 10,896	
Normal Retirement Formula:	
Year 2000 Plan: 1.7% of compensation times years of service plus 0.8% to age 62 (temp benefit under rule of 80)	
Normal Retirement Eligibility:	
Age 62 with 5 years of service or rule of 80. Uniformed Patrol: Mandatory retirement at age 60.	
Hired for the first time on/after 1/1/11: Age 67 with 5 years of service or Rule of 90 (age 55). Uniformed Patrol: Age 55 with 5 years of service. Mandatory retirement at age 60.	
Social Security Coverage: Yes	
COLA: Annual Max 5%; 80% of CPI	
Assumed rate of return: 7%	
Salary: 3%	

FY End- ing June 30,	<u>RECOMMENDED CONTRIBUTION</u>	<u>ACTUAL CONTRIBUTION</u>	<u>PERCENT CONTRIBUTED</u>
2018	\$204,955,180	\$204,955,180	100%
2017	\$206,562,924	\$206,562,924	100%
2016	\$199,609,396	\$199,609,396	100%
2015	\$200,638,571	\$200,638,571	100%
2014	\$183,358,841	\$183,358,841	100%

OVERLAND POLICE RETIREMENT FUND

- Rate of return on investments equaled 11.5% (Market) and 5.8% (Actuarial) vs. 7% assumed.
- The City Council adopted three changes to the plan in 2017: increased employee contributions from 5% to 7.5%, phased out a retroactive COLA for certain members, and changed the refund of employee contributions upon retirement provision so employee contributions made after April 1, 2017 will not be refunded upon retirement.
- The employer contribution was supported by a tax levy of \$0.12 that had been insufficient to meet the ADC since 2008. In August 2017, the voters approved a tax levy increase. On 9/25/17, the City Council set a tax rate of \$0.24 residential, \$0.36 commercial, \$0.367 residential. Certified by the State Auditor on 9/27/17.
- The City made multiple changes to actuarial assumptions in 2014 based on the results of a five-year experience study, including lowering the assumed rate of return from 7.5 to 7.0 and updating mortality tables.
- The plan smooths investment gains and losses over five years.



	<u>RECOMMENDED CONTRIBUTION</u>	<u>ACTUAL CONTRIBUTION</u>	<u>PERCENT CONTRIBUTED</u>
2018	\$1,091,236	N/A	N/A
2017	\$1,136,068	\$233,363	21%
2016	\$1,085,072	\$242,311	22%
2015	\$1,072,917	\$251,812	23%
2014	\$863,157	\$240,878	28%
2013	\$801,961	\$268,988	34%

As of 4/1/17

Market Value: \$12,565,232

Actuarial Value: \$12,786,072

Liabilities: \$21,502,451

Membership:

Active: 42 Inactive: 40

Normal Retirement Formula:

2.5% of compensation for the first 20 years of service plus 1.5% of compensation for each of the next 10 years of service.

Normal Retirement Eligibility:

20 years of service or Age 62 with 18 years of service or SSA full retirement age with 5 YOS

Social Security Coverage: Yes

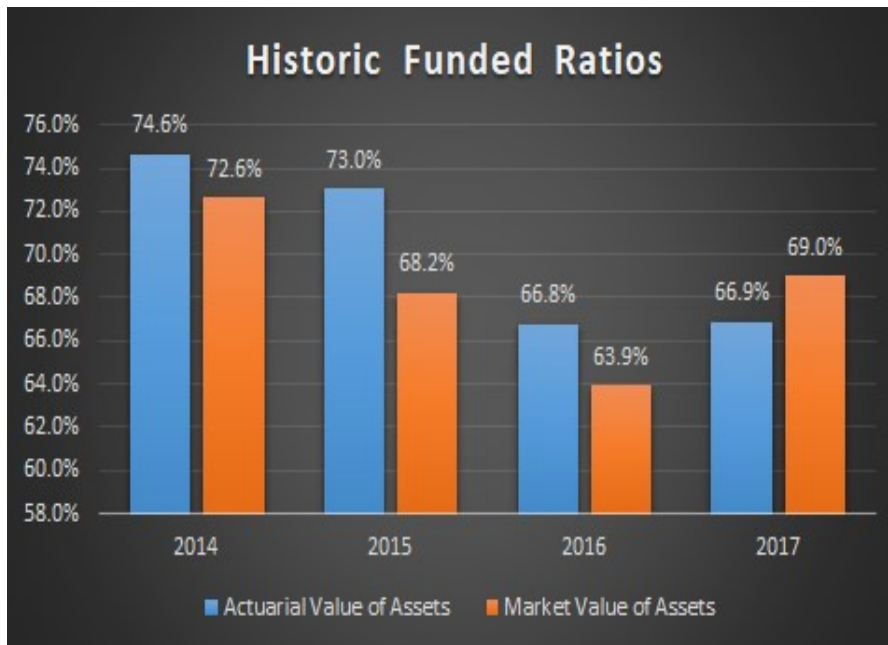
COLA: Annual Max 3%; 60% of CPI

Assumed Rate of Return: 7%

Salary: 3.5%

POPLAR BLUFF POLICE & FIRE PENSION PLAN

- Market rate of return on investments equaled 11.01% vs. 5% assumed.
- During the past plan year, the plan experienced an actuarial loss. The actuary writes “this loss was primarily due to contributions for the prior year being less than the 2017 actuarially determined contribution.
- The City has not contributed 100% of the ADC beginning with plan year 2012. The actuary has noted that “contributing less than the actuarially determined contribution will increase your next year’s amount.”
- Prior to the 1/1/17 valuation, the plan’s actuary conducted a comprehensive review of assumptions. Effective with the 1/1/17 valuation, it: lowered the assumed rate of return from 5.50% to 5%, lowered the inflation assumption from 2.25% to 2%, lowered the salary projection assumption from 3.25% to 3%, and lowered the compensation increase limit from 2.25% to 2%.
- Effective with the January 1, 2015 actuarial valuation, the cost method was changed from the Aggregate method to the Entry Age Normal cost method with a 20-year amortization period for unfunded liabilities.



January 1,	<u>RECOMMENDED CONTRIBUTION</u>	<u>ACTUAL CONTRIBUTION</u>	<u>PERCENT CONTRIBUTED</u>
2018	\$850,408	N/A	N/A
2017	\$811,036	\$253,225	31%
2016	\$579,058	\$330,864	57%
2015	\$543,721	\$235,832	43%
2014	\$507,503	\$233,861	46%
2013	\$473,003	\$244,411	52%

As of 1/1/18

Market Value: \$13,175,067
Actuarial Value: \$12,766,902
Liabilities: \$19,086,866

Membership:

Active: 81 **Inactive:** 68

Normal Retirement Formula:

2% of compensation for the first 20 years of service plus 1.5% for each additional year of service. Maximum benefit of \$1650 per month.

Normal Retirement Eligibility:

Later of age 55 or 5 years of service.

Social Security Coverage: No

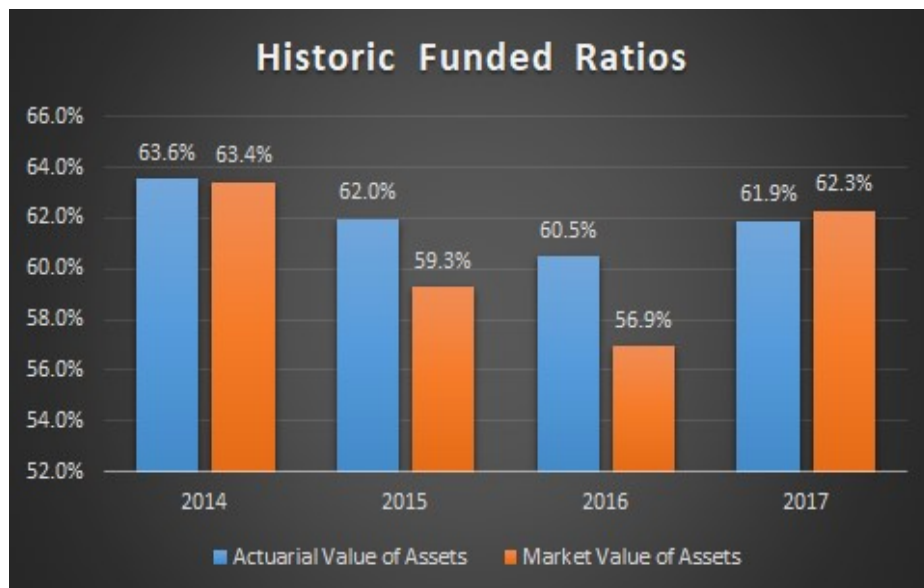
COLA: No COLA

Assumed rate of return: 5%

Salary: 3%

RAYTOWN POLICE OFFICERS' RETIREMENT FUND

- Rate of return on investments equaled 13.94% (market) and 6.3% (actuarial) vs. 7.5% assumed.
- Updated mortality tables to the most recent projection scale. The actuary writes "we plan on updating to the most recently available projection scale in all future valuations."
- Effective with the 1/1/15 valuation, the plan implemented five year smoothing of investment gains and losses "thus smoothing the volatility of market returns and producing more stability in contribution amounts."
- The plan utilizes a closed 30-year period for amortization of unfunded actuarial accrued liabilities that began 1/1/14.
- An employee contribution of 3% of pay was ceased in 2000 when the Plan was 101% funded.
- The actuary comments "The Plan has been making progress toward a safe funding level. The City policy to contribute the recommended contribution will allow the funded status to slowly improve."
- The Plan was frozen as of December 31, 2013 with members moving to LAGERS.



Year ended 12/31,	RECOMMENDED CONTRIBUTION*	ACTUAL CONTRIBUTION*	PERCENT CONTRIBUTED
2018	\$593,459	N/A	N/A
2017	\$608,134	\$608,134	100%
2016	\$562,862	\$562,862	100%
2015	\$513,291	\$510,320	99.4%
2014	\$508,285	\$509,880	100%
2013	\$660,842	\$660,842	100%

* Contribution history taken from January 1, 2018 Valuation, Page 18, Ten-Year Schedule of Contributions.

As of 1/1/18

Market Value: \$10,962,984

Actuarial Value: \$10,884,568

Liabilities: \$17,584,478

Membership:

Active: 25 **Inactive:** 61

Normal Retirement Formula:

2.5% of compensation for the first 20 years of service plus 1% for each of the next 10 years of service. Benefits frozen as of 12/31/13.

Normal Retirement Eligibility:

Age 55 with 20 years of service

Social Security Coverage: Yes

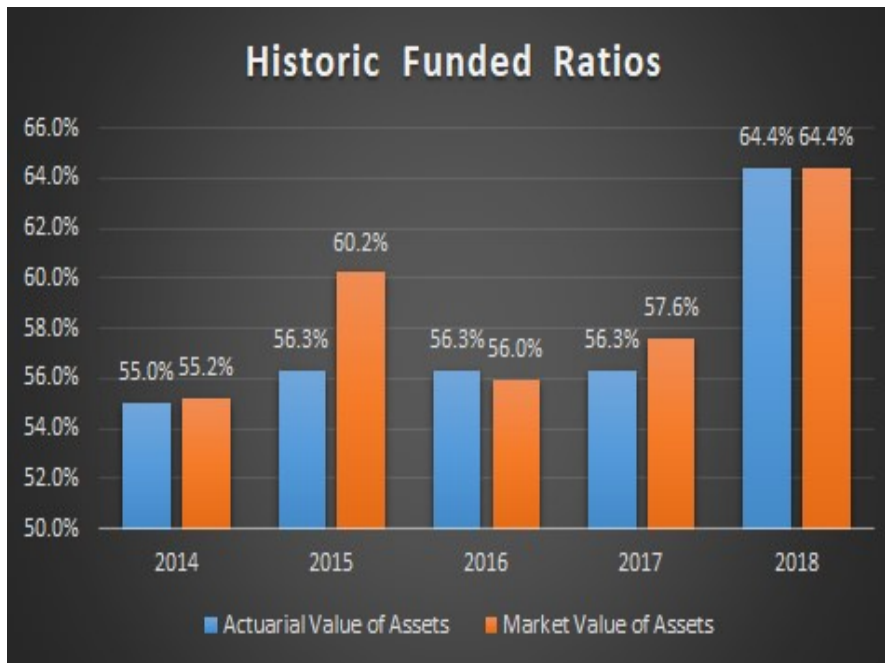
COLA: No COLA

Assumed Rate of Return: 7.5%

Salary: 4%

ROCK HILL UNIFORMED EMPLOYEES' PENSION PLAN

- For the year ended 3/31/18, the rate of return on investments equaled 10.03% (market) compared to 6.4% assumed.
- This plan was closed to new employees effective May 2003. Benefit accruals were frozen as of 5/1/11.
- All active participants as well as new hires are members of LAGERS as of September 2007.
- The employer has not met the ADC since 2008. The City's CAFR notes that "As of March 31, 2018, the City did not have a formal contribution policy. Annual contributions made to the Plan over the last five years averaged 76% of the Actuarial Required Contribution (ARC.) Based on the actuary's recommendation, the City will research a contribution policy that better reflects that the Plan is frozen and the number of active participants is declining."
- The City's FY 2018-2019 Budget indicates it is "anticipating turning the pension plan administration over to [LAGERS]. LAGERS will amortize the unfunded liability over a period of fifteen years, allowing the City lower annual contributions and provide stability to the pension plan."



Year Ending March 31,	<u>RECOMMENDED CONTRIBUTION**</u>	<u>ACTUAL CONTRIBUTION**</u>	<u>PERCENT CONTRIBUTED</u>
2018	\$212,536	\$150,000	71%
2017	\$212,536	\$150,000	71%
2016	\$199,227	\$150,000	75%
2015	\$199,227	\$275,000**	138%
2014	\$251,551	\$0**	0%
2013	\$251,551	\$210,325	84%

As of 3/31/18 & 5/1/18	
Market Value:	\$2,076,374*
Actuarial Value:	\$2,077,350*
Liabilities:	\$3,223,807*
Membership:	
Active: 7	Inactive: 19
Normal Retirement Formula:	
40% or 50% of compensation, reduced by 1/20 for each year less than 20, plus temporary benefit. Percentage based on age and years of service as of 4/30/03.	
Normal Retirement Eligibility: Age 60 with 20 years of service.	
Social Security Coverage: Yes	
COLA: No COLA	
Assumed Rate of Return: 6.4	
Salary: N/A	
*Market value from 3/31/18 CAFR, page 46. Actuarial value and liabilities from 5/1/18 actuarial valuation page 2.	

**Contribution information found in Comprehensive Annual Financial Report for Fiscal Year Ended March 31, 2018, Page 66, Schedule of Contributions. Due to a timing issue with the investment custodian, the 2014 contribution of \$125,000 was not received until April 2014 after the end of the fiscal year. The 2015 contribution would otherwise be \$150,000.

From: [Jennifer Yackley](#)
To: [Michael Ruff](#); stephesf@kirkwoodmo.org
Subject: RE: Rock Hill Uniformed Employees' Pension Plan
Date: Tuesday, November 13, 2018 12:31:36 PM

The city is still working on the hand off to LAGERS. We are in the process of reviewing draft amendments, provided by LAGERS, for the plan documents. The city does not have a specific date for the turnover of the pension fund to LAGERS.

From: Michael Ruff [mailto:mruff@senate.mo.gov]
Sent: Tuesday, November 13, 2018 12:26 PM
To: jyackley@rockhillmo.net; stephesf@kirkwoodmo.org
Subject: Rock Hill Uniformed Employees' Pension Plan

Dear Ms. Yackley and Ms. Stephens,

Each year, the Joint Committee on Public Employee Retirement (JCPER) staff compiles a report for the committee's review that includes any defined benefit retirement plan that has a funded ratio of less than 70% on a market value basis. We have used information from Rock Hill's 3/31/18 CAFR, 5/1/18 actuarial valuation, and notes in the 2018-2019 budget to prepare this report. This report is designed to increase awareness of trends in plan funding and contribution levels.

I am attaching an information sheet relating to the Rock Hill Uniformed Employees' Pension Plan that will be presented to the JCPER at its fourth quarter meeting on Monday, December 3, 2018 at 10:30am in House Hearing Room 6. Please feel free to review this information and respond with any additional information or thoughts you deem appropriate. If you would like to respond, please provide any information or comments by Monday, November 26.

I noticed that the City is considering transferring the administration of the plan to LAGERS (and in August, LAGERS provided the JCPER a copy of the initial actuarial valuation.) Would you be able to comment on how the process of transferring the plan is proceeding?

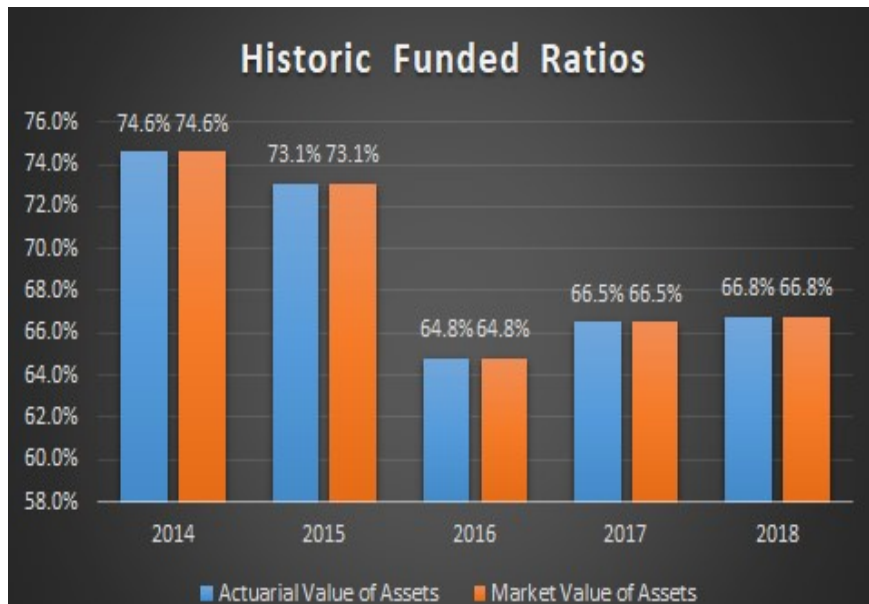
Thank you for your consideration and ongoing cooperation with the JCPER. Please do not hesitate to contact me if you have any questions or would like additional information.

Sincerely,

Michael Ruff
Executive Director
Joint Committee on Public Employee Retirement
State Capitol, Room 219-A
Jefferson City, MO 65101
573-751-1280
mruff@senate.mo.gov

FIREFIGHTERS' RETIREMENT FUND OF THE CITY OF SEDALIA

- Rate of return on investments equaled 7.1% versus 7% assumed.
- Completed an experience study in November 2017 for the period 4/1/09 to 3/3/17. Updated termination and retirement rate assumptions. Updated mortality tables to the most recent projection scale.
- The plan values assets at market value and does not smooth investment gains and losses.
- The plan adopted a closed 30-year period for amortizing unfunded liabilities with additional UAAL amortized over layered 20-year periods. Previously, it used an open 30-year period.
- The plan is funded by both property tax revenues (\$0.05 per \$100 of assessed valuation) and city-appropriated contributions based on the recommendation of the actuary.
- Discontinued employee contributions effective 4/1/12.
- The actuary writes "The Plan has been making progress toward a safe funding level. The City policy to contribute the recommended contribution will allow the fund status to continue to improve. We recommend a review of the Plan's investment policy with asset managers and a future discussion regarding the discount rate currently being used."



Year ending 3/31,	<u>RECOMMENDED CONTRIBUTION</u>	<u>ACTUAL CONTRIBUTION</u>	<u>PERCENT CONTRIBUTED</u>
2019	\$385,272	N/A	N/A
2018	\$362,295	\$450,145	124%
2017	\$439,494	\$353,426	80%
2016	\$358,679	\$331,451	92%
2015	\$331,814	\$367,229	111%
2014	\$364,363	\$387,393	106%

As of 4/1/18

Market Value: \$7,528,975
Actuarial Value: \$7,528,975
Liabilities: \$11,263,908

Membership:

Active: 37 **Inactive:** 48

Normal Retirement Formula:

50% of Indexed Earnings Base
 2018 IEB = \$56,112

Normal Retirement Eligibility:

Age 55 with 22 years of service

Social Security Coverage: No

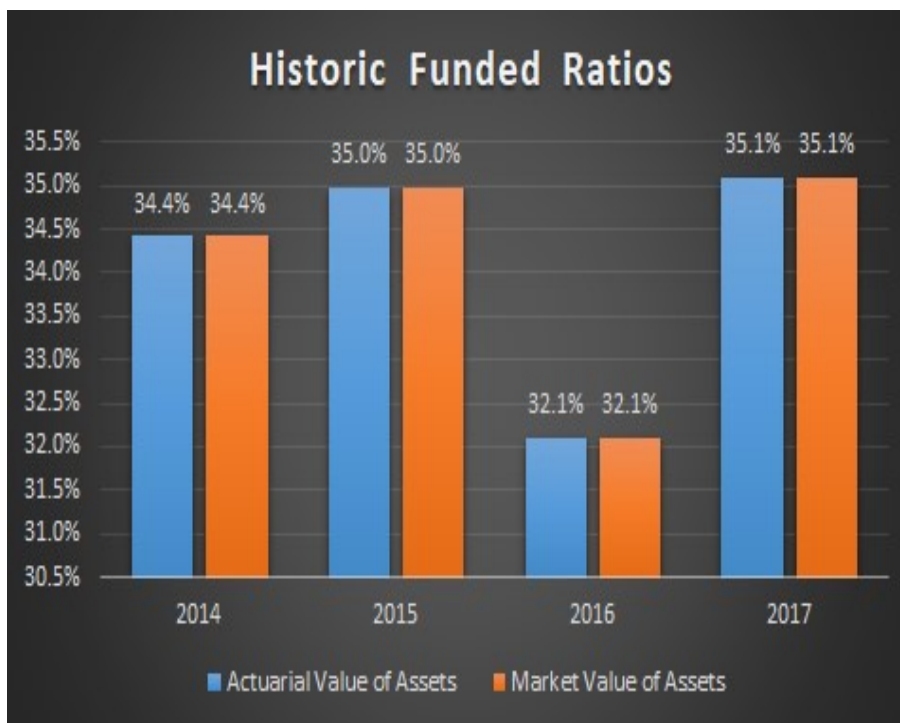
COLA: Annual max 3%

Assumed Rate of Return: 7%

Increases in IEB: 3%

SEDALIA POLICE RETIREMENT FUND

- Rate of return on investments equaled 9.8% (Market) vs. 6% assumed (investment assumption was reduced from 7.5% to 6% effective with the 8/1/13 valuation).
- Updated mortality tables.
- Plan does not smooth investment gains/losses.
- Unfunded Actuarial Accrued Liabilities are amortized over a closed 25-year period beginning 8/1/15. Additional UAAL is amortized over layered 20-year periods.
- Plan was frozen as of April 1, 2010, with no additional benefit accruals. Existing and new employees moved to LAGERS. Effective 4/1/10, employee contributions are not required.
- Employer contribution is tied to a \$0.916 per \$100 assessed valuation tax levy.
- The employer contribution tied to tax levy proceeds has not been sufficient to meet the ADC. The City has made additional appropriations to the fund beyond the tax levy.
- The actuary writes that "The Plan's funding level is critical. The City's policy to contribute the recommended contribution will allow the funded status to improve..."

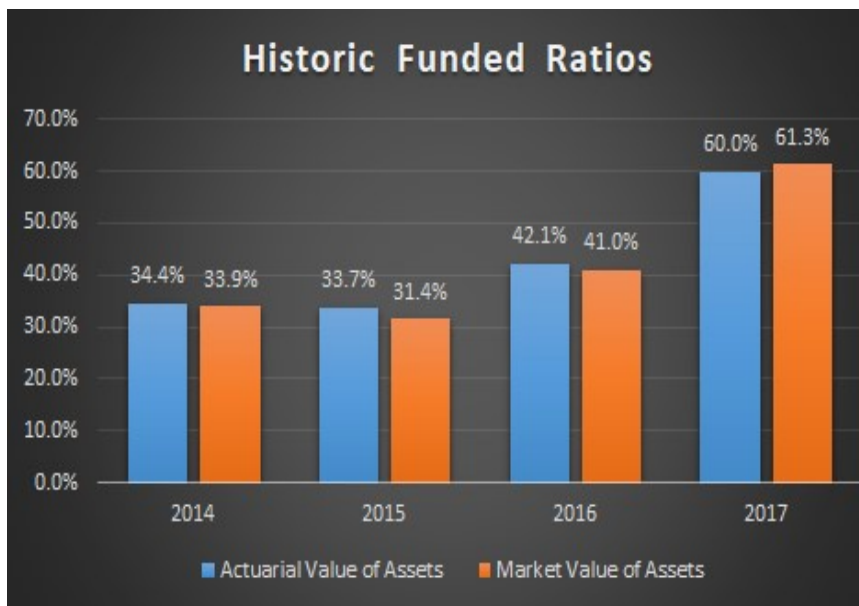


As of 8/1/17	
Market Value:	\$3,492,328
Actuarial Value:	\$3,492,328
Liabilities:	\$9,938,578
Membership:	
Active:	27
Inactive:	44
Normal Retirement Formula:	
2% of compensation times years of service. Maximum of 30 years.	
Normal Retirement Eligibility:	
Hired on/after 7/1/89: Age 55 with 22 years of service.	
Social Security Coverage: Yes	
COLA: Annual max of 2%	
Assumed Rate of Return: 6%	
Salary: N/A	

Year Ending 7/31,	RECOMMENDED CONTRIBUTION	ACTUAL CONTRIBUTION	PERCENT CONTRIBUTED
2018	\$514,150	N/A	N/A
2017	\$536,425	\$534,006	99.5%
2016	\$452,528	\$480,774	106%
2015	\$456,345	\$448,165	98%
2014	\$459,978	\$384,258	84%
2013	\$394,889	\$235,179	60%

ST. LOUIS CITY FIREFIGHTERS' RETIREMENT PLAN

- Rate of return on investments equaled 13.11% (Market) and 7.53% (Actuarial) vs. 7.625% assumed.
- Completed an experience study for October 1, 2013 through September 30, 2017. Reduced the assumed rate of return from 7.625 to 7.25. Revised multiple assumptions, including mortality tables, disability rate, withdrawal rate, retirement rate, marriage, and sick leave. Reduced payroll growth from 3 to 2.75 and increases in the Consumer Price Index from 3 to 2.75. These changes reduced the plan's liabilities and resulted in a lower actuarially determined contribution.
- Effective February 1, 2013, benefit accruals under the Firemen's Retirement System of St. Louis were frozen. This plan (The Firefighters' Retirement Plan of the City of St. Louis) was established to provide benefits for service rendered after that date.
- Plan adopted a 30-year closed amortization period effective February 1, 2013 for payment of unfunded liabilities.
- The employer has contributed 100% of the actuarially determined contribution.



FY ending 9/30,	RECOMMENDED CONTRIBUTION	ACTUAL CONTRIBUTION	PERCENT CONTRIBUTED
2018	\$8,022,799	N/A	N/A
2017	\$9,262,698	\$9,262,698	100%
2016	\$9,148,007	\$9,148,007	100%
2015	\$7,435,635	\$7,435,635	100%

As of 10/1/17

Market Value: \$61,266,961
Actuarial Value: \$60,014,292
Liabilities: \$100,013,786

Membership:

Active: 636 **Inactive:** 70

Normal Retirement Formula (new members since 2/1/13):

2% of average final compensation for the first 25 years of service plus 2.5% (5% for grandfathered participants) in excess of 25 years of service. Max of 75% of compensation.

Normal Retirement Eligibility: Age 55 with 20 years of service.

Social Security Coverage: No

COLA: 1.5% to 5% not to exceed CPI. CPI must be at least 1% to receive a COLA.

Assumed Rate of Return: 7.25

Salary: 2.75