



Judges' Retirement System of Illinois

Valuation Results as of
June 30, 2016

October 28, 2016



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Agenda

◆ Valuation Results

- ▶ Change in actuarial assumptions
- ▶ Funded status
- ▶ Change in funded ratio
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- ◆ Appendix B: Membership Data



Valuation Results: Change in Actuarial Assumptions

- ◆ The JRS Board approved the following assumptions for use in the current valuation:
 - ▶ **Price inflation:** The rate of price inflation was decreased from 3.00 percent to 2.75 percent.
 - ▶ **Investment return:** The investment return assumption, net of investment expenses, compounded annually, was lowered from 7.00 percent to 6.75 percent, which reflects an underlying price inflation assumption of 2.75 percent.
 - ▶ **Payroll growth assumption:** The payroll growth assumption was decreased from 3.75 percent to 3.00 percent, which reflects an underlying general price inflation assumption of 2.75 percent.
 - ▶ **Salary increase:** The salary increase assumption was changed to 3.00 percent per year, compounded annually. This 3.00 percent salary increase assumption includes an inflation component of 2.75 percent per year and a productivity/merit/promotion component of 0.25 percent per year.
 - ▶ **Normal retirement rates:** The overall rates were decreased to better reflect observed experience.



Valuation Results: Change in Actuarial Assumptions (Continued)

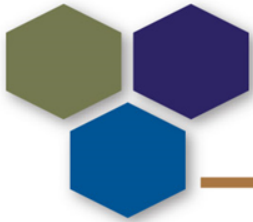
- ▶ **Turnover rates:** The current rate was increased for both Tier One and Tier Two members. For Tier Two members with less than five years of service, the turnover rate was increased to a flat rate of 1.75 percent.
- ▶ **Mortality rates:** The mortality tables used for the June 30, 2016, actuarial valuation were changed to the RP-2014 White Collar Total Healthy Annuitant Mortality table for post-retirement mortality and the RP-2014 White Collar Total Employee Mortality table for pre-retirement mortality. In addition to the change in mortality tables, generational mortality improvement factors were added to reflect future mortality improvement. The new mortality tables are a move from a single dimensional age-based table to a two dimensional table, in which the year a person was born influences their mortality rate.
- ◆ The change in assumptions increased the actuarial accrued liability as of June 30, 2016, by 153.2 million.



Valuation Results: Funded Status (\$ in millions)

	<u>June 30, 2016</u>	<u>June 30, 2015</u>
Actuarial Accrued Liability	\$2,546.4	\$2,314.1
Market Value of Assets (MVA)	\$840.3	\$833.9
Unfunded Actuarial Accrued Liability - MVA Basis	\$1,706.1	\$1,480.2
Funded Ratio - MVA Basis	33.00%	36.04%
Actuarial Value of Assets (AVA)	\$870.9	\$804.2
Unfunded Actuarial Accrued Liability - AVA Basis	\$1,675.5	\$1,510.0
Funded Ratio - AVA Basis	34.20%	34.75%

Results may not add due to rounding.



Valuation Results: Change in Funded Ratio

Change in Funded Ratio

Funded Ratio 6/30/2015	34.75%
Expected ¹	2.25%
Contribution Shortfall	-0.54%
Liability Experience	0.05%
Assumption Changes	-2.20%
Asset Experience (6.64% Return on AVA)	<u>-0.11%</u>
Funded Ratio 6/30/2016	34.20%

¹ *Assumes total contributions equal to normal cost plus interest*



Valuation Results: Cash Flow Comparison (\$ in millions)

Cash Flow Comparison

	FYE 2016	Projected FYE 2017	Projected FYE 2018	Projected FYE 2019	Projected FYE 2020
Employer Contribution	\$132.1	\$131.3	\$146.8	\$146.8	\$147.7
Employee Contribution	\$15.0	\$14.0	\$13.9	\$13.8	\$13.7
Benefits	(\$133.2)	(\$143.6)	(\$151.2)	(\$158.9)	(\$167.0)
Expenses	(\$0.9)	(\$1.1)	(\$1.1)	(\$1.1)	(\$1.1)
Net Cash Flow	\$13.0	\$0.6	\$8.4	\$0.6	(\$6.7)

- ◆ After 2019, benefits are projected to exceed State and employee contributions.
- ◆ From 2020 to 2032, the percentage of investment income needed to pay ongoing benefits is projected to increase from approximately 9.4 percent to 75.0 percent.
 - ▶ This implies that a lower level of investment income is projected to be available for potential asset growth.



Valuation Results: Contribution Requirements (\$ in millions)

FY 2018 State contribution

	<u>Amount</u>	<u>Rate</u>
Basic Funding	\$ 146.8	91.395%

Compares to FY 2017 contribution

	<u>Amount</u>	<u>Rate</u>
Basic Funding	\$ 131.3	79.683%



Valuation Results: Contribution Shortfalls (\$ in millions)

<u>FY 2018</u>	<u>Amount</u>	<u>Rate</u>
Annual Determined Contribution	\$ 168.1	104.653%
Basic funding	<u>146.8</u>	<u>91.395%</u>
Difference	\$ 21.3	13.258%
<u>FY 2017</u>	<u>Amount</u>	<u>Rate</u>
Annual Determined Contribution	\$ 152.7	92.646%
Basic funding	<u>131.3</u>	<u>79.683%</u>
Difference	\$ 21.4	12.963%

- ◆ The Actuarially Determined Contribution (ADC), is equal to the Normal Cost plus a 25-year level percent of capped payroll closed-period amortization of the Unfunded Actuarial Accrued Liability. As of June 30, 2016, the remaining amortization period is 24 years.



Summary

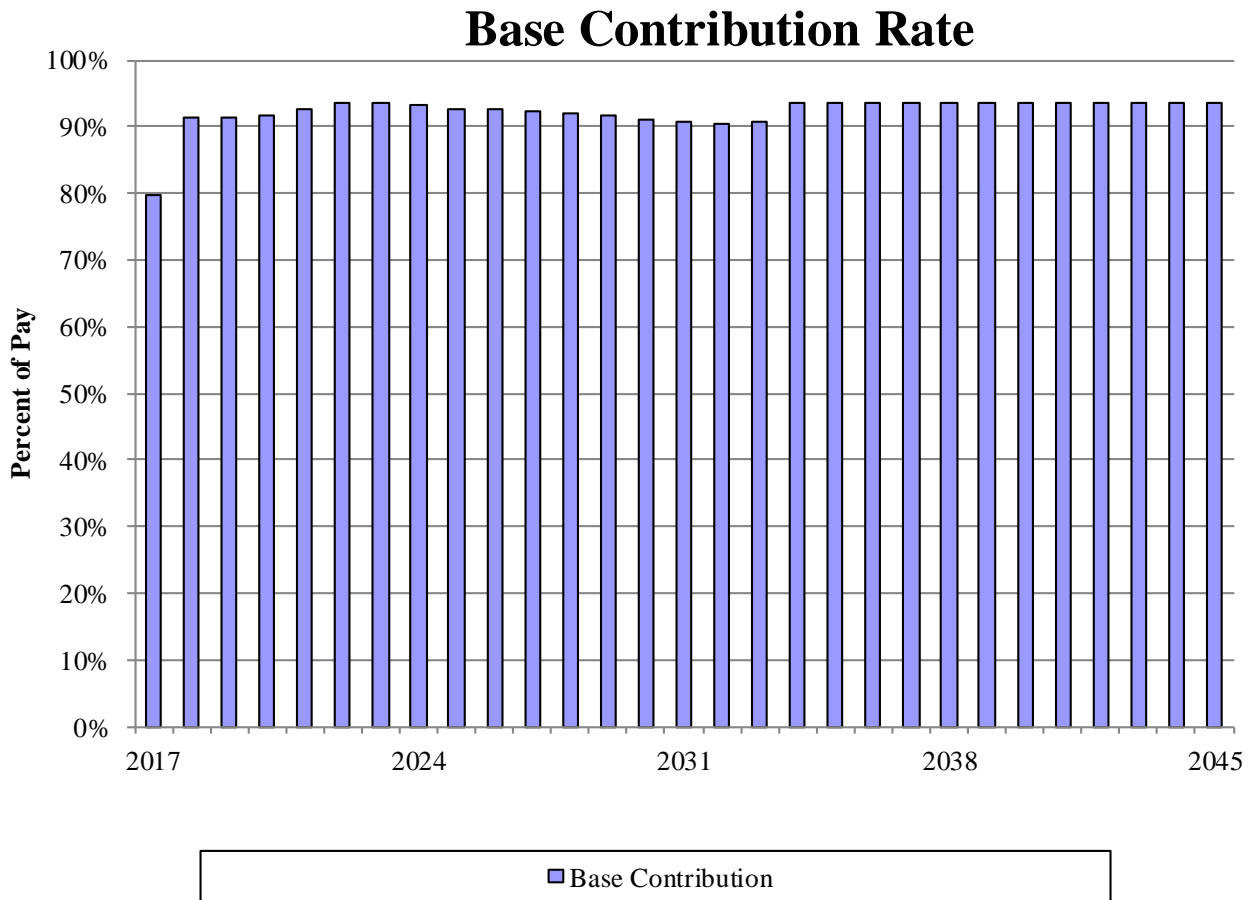
- ◆ A (0.77) percent investment return on a market basis, a contribution shortfall and the change in actuarial assumptions decreased the funded ratio and increased the State's contribution requirement.
- ◆ Funded ratio is projected to increase slowly from 34.2 percent in 2016 to 51.6 percent in 2033, and then increases rapidly to 90 percent by 2045.



Appendix A: Projection Results: Phase-in of investment losses in the AVA

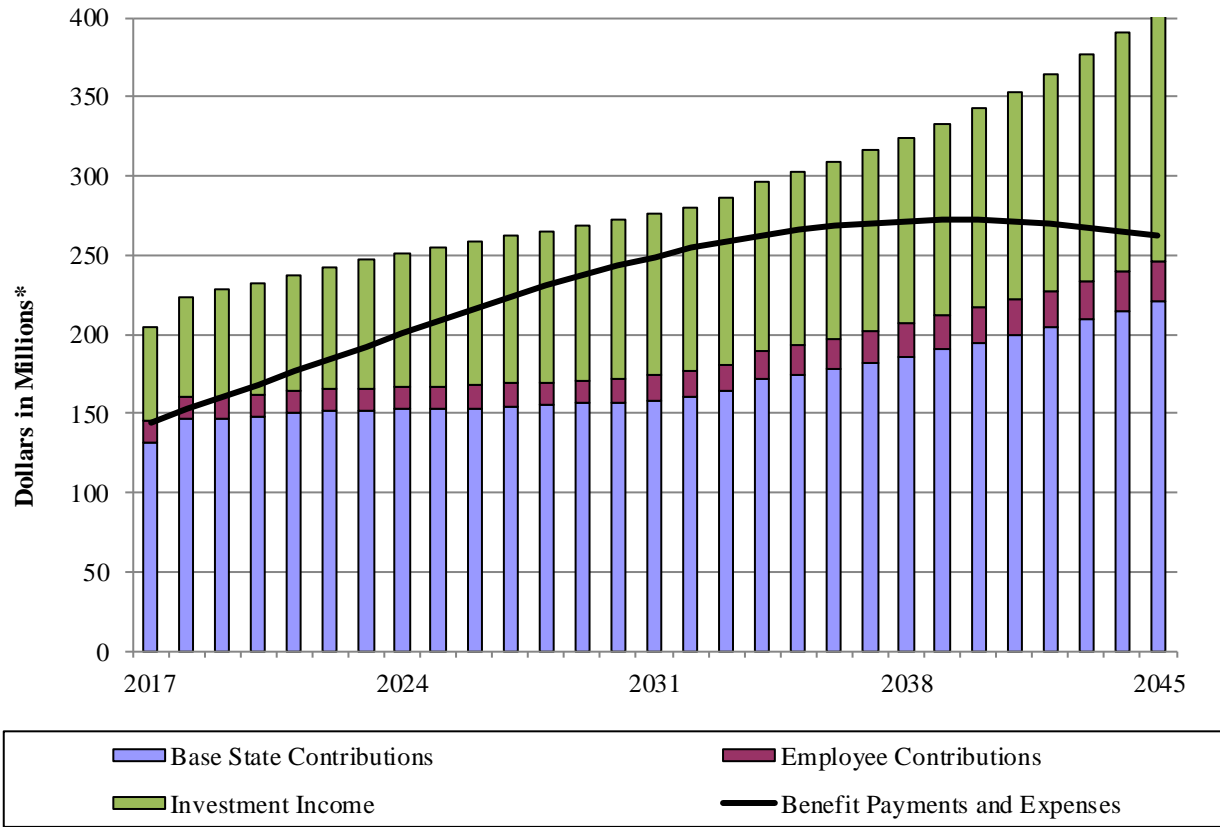


Projection Results: Phase-in of investment losses in the AVA: Contributions - Rate





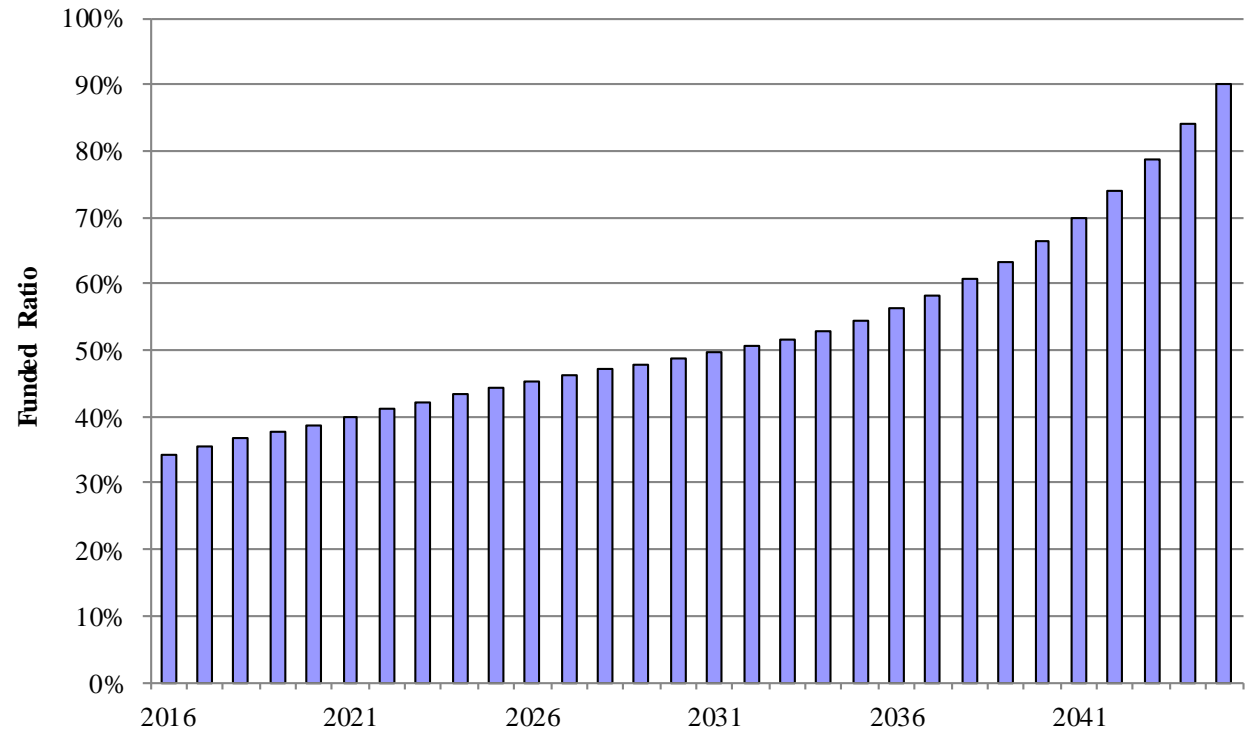
Projection Results: Phase-in of investment losses in the AVA: Cash Flow Comparison



**Future dollar amounts are based on assumed inflationary increases.*

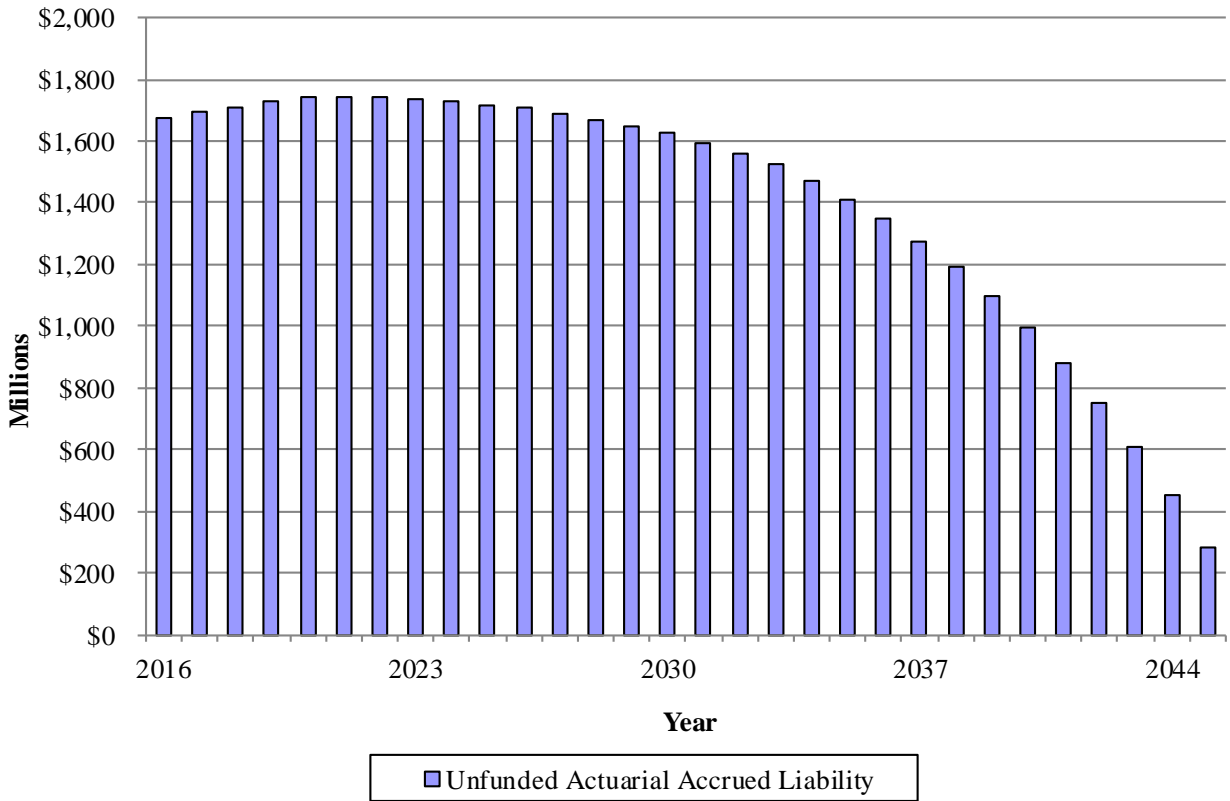


Projection Results: Phase-in of investment losses in the AVA: Funded Ratio





Projection Results: Phase-in of investment losses in the AVA: Unfunded Actuarial Accrued Liability





Appendix B: Membership Data



Active Members

	<u>June 30, 2016</u>	<u>June 30, 2015</u>
Number as of Valuation Date	947	961
Covered Payroll for Fiscal Year	\$177.99 Million	\$177.16 Million
Average Annual Earnings	\$187,953	\$184,354



Current Benefit Recipients

	<u>June 30, 2016</u>	<u>June 30, 2015</u>
Retirees	817	787
Survivors	327	334
Total	1,144	1,121
Total Benefits	\$134.585M	\$127.867M
Average Benefits	\$117,644	\$114,066



Questions



Disclosures

- ◆ Circular 230 Notice: Pursuant to regulations issued by the IRS, to the extent this presentation concerns tax matters, it is not intended or written to be used, and cannot be used, for the purpose of (i) avoiding tax-related penalties under the Internal Revenue Code or (ii) marketing or recommending to another party any tax-related matter addressed within. Each taxpayer should seek advice based on the individual's circumstances from an independent tax advisor.
- ◆ This presentation shall not be construed to provide tax advice, legal advice or investment advice.
- ◆ The actuary submitting this presentation (Alex Rivera, FSA, EA, MAAA) is a Member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.
- ◆ The primary purpose of the actuarial valuation is to measure the financial position of JRS.



Disclosures

- ◆ The valuation results summarized in this report involve actuarial calculations that require assumptions about future events. The major actuarial assumptions used in this analysis were provided by and are the responsibility of JRS. We are unable to judge the reasonableness of some of these assumptions without performing a substantial amount of additional work beyond the scope of the assignment.
- ◆ Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and changes in plan provisions or applicable law.
- ◆ This is one of multiple documents comprising the actuarial report for the JRS actuarial valuation. Additional information regarding actuarial assumptions and methods, and important additional disclosures are provided in the full actuarial valuation report as of June 30, 2016.
- ◆ If you need additional information to make an informed decision about the contents of this presentation, or if anything appears to be missing or incomplete, please contact us before relying on this presentation.