Jonesboro Fire (1050231)
Arkansas Local Police and Fire Retirement System

December 31, 2019

Outline of Contents

Report of LOPFI Actuarial Valuations Covering Paid Service LOPFI Members and Paid Service Local Pension and Relief Fund Members (Closed Plan)

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June 19, 2020

Jonesboro Fire (1050231)
Jonesboro, Arkansas

Ladies and Gentlemen:

Submitted in this report are the results of the December 31, 2019 actuarial valuation which determines the employer contribution rate required to support, for your employees, the benefits provided by the Arkansas Local Police and Fire Retirement System ("LOPFI") for members of your Local Pension and Relief Fund.

This report was prepared at the request of the Board and is intended for use by the Retirement System and those designated or approved by the Board (including employers participating in LOPFI). This report may be provided to parties other than the System only in its entirety and only with the permission of the Board. GRS is not responsible for unauthorized use of this report.

This report should not be relied on for any purpose other than the purposes described herein. Determinations of financial results, associated with the benefits described in this report, for purposes other than those identified above may be significantly different.

The purpose of the valuation is to measure the funding progress in relation to the actuarial cost method and to determine the employer contribution rate for the Fiscal Year beginning January 1, 2021. These measurements were made in accordance with the basic financial objective of the Arkansas Local Police and Fire Retirement System (LOPFI): to establish and receive contributions which will remain approximately level from generation to generation and when combined with present assets and future investment return will be sufficient to meet the financial obligations of LOPFI to present and future benefit recipients. Calculations required for GASB Statement No. 68 are provided in a separate report.

The employer contribution rate is shown on page 4. This computed contribution rate may be considered as a minimum contribution rate that complies with the Board's funding policy. Users of this report should be aware that contributions made at this level do not guarantee benefit security. Given the importance of benefit security to any retirement plan, we suggest that contributions in excess of this level be considered.

The valuation was based upon data furnished us concerning active and retired members and System assets as of December 31, 2019. The cooperation of the Executive Director and the LOPFI staff in furnishing the materials required for these valuations is acknowledged with appreciation. We checked for internal and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the data provided by LOPFI staff.

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A complete description of the actuarial methods and assumptions used in making the valuations are shown in the compiled annual valuation report for LOPFI. The December 31, 2019 valuation was based upon demographic assumptions that were recommended in connection with a study of experience covering the 2012-2016 period and economic assumptions adopted by the Board in December 2017. These assumptions are established by the Board after consulting with the actuary as outlined in A.C.A. 24-10-205(a)(1).

To the best of our knowledge, this report is complete and accurate and was made in accordance with standards of practice promulgated by the Actuarial Standards Board of the American Academy of Actuaries and in conformance with Title 24 of the Arkansas Code, which gives the Board the authority to adopt the assumptions used in actuarial valuations. The Board has committed to an ongoing review of the actuarial assumptions. In our opinion, the demographic assumptions used for the valuation produce results which, individually and in the aggregate, are reasonable. **In our professional judgment, the discount rate of 7.50% used in this report deviates materially from the guidance set forth in Actuarial Standard of Practice No. 27 (ASOP No. 27)[1].**

If a discount rate which was determined to be reasonable were used in this valuation instead of 7.50%, the contribution rate would be higher than shown. For example, the annual computed contribution for 2021 based on a 7.00% discount rate would be $1,205,436.

Note that other assumptions and methods could also be reasonable and could result in materially different results. In addition, because it is not possible or practical to consider every possible contingency, we may use summary information, estimates or simplifications of calculations to facilitate the modeling of future events. We may also exclude factors or data that are deemed to be immaterial. Each actuarial valuation takes into account all prior differences between actual and assumed experience in each risk area and adjusts the contribution rates as needed.

Please be aware that future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as: plan experience differing from that anticipated by the economic and demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of the actuary's assignment, the actuary did not perform an analysis of the potential range of such future measurements.

If you have any questions concerning this result or LOPFI in general, please contact the LOPFI office.

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[1] The September 7, 2017 experience study presentation covering the period from January 1, 2012 through December 31, 2016 included an analysis of the long-term rate of investment return and inflation assumptions and suggested that an investment return assumption in the range of 6.25% to 7.00% would be reasonable. Please see our report dated September 29, 2017 for additional information.

This report includes examples of potential risks that may reasonably be anticipated to significantly affect the plan's future financial condition but does not include a more robust assessment of the risks of future experience not meeting the actuarial assumptions. Additional assessment of risks was outside the scope of this assignment. We encourage a review and assessment of investment and other significant risks that may have a material effect on the plan's financial condition.

This valuation assumed the continuing ability of the plan sponsor to make contributions necessary to fund this plan. A determination of the ability of the plan sponsor to do so is outside our area of expertise and was not performed.

The individuals who prepared this report have substantial experience valuing public employee retirement systems and are independent of the plan sponsor. Heidi G. Barry and Casey T. Ahlbrandt-Rains are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

If you have any questions concerning this report or LOPFI in general, please contact the LOPFI office.

Respectfully submitted,

David L. Hoffman

Heidi G. Barry, ASA, FCA, MAAA

Casey T. Ahlbrandt-Rains, ASA, MAAA

DLH/HGB/CAR:dj

Employer Contributions for Calendar Year 2021

LOPFI Plan

The LOPFI Board has adopted a policy to apply a uniform rate to all paid service employers. As a wide range of rates existed before adoption of the policy and employer rate increases are generally limited to 1% of covered payroll per year, it will be several years until the uniform rate is achieved.

For the 2021 calendar year, the LOPFI uniform rate was computed to be 23.17% of active member payroll. The compiled valuation that determines this rate is on file with LOPFI. The LOPFI employer rate applicable to your plan for calendar year 2021 is 23.50% of LOPFI active member payroll. For comparison purposes, the applicable rate for your plan for calendar year 2020 was computed to be 23.50% of LOPFI active member payroll.

Local Pension and Relief Fund

The payroll of LOPFI and Local Fund active members reported as of December 31, 2019 is $6,791,236. The unfunded liability as of December 31, 2019 is $14,731,791. The financing period for the Local Fund unfunded liability is 17 years, beginning January 1, 2021.The actuarially determined employer contribution to pay off the unfunded liability over the financing period is expressed as a percent of active member payroll (LOPFI and Local Fund combined).This percent of payroll contribution has been determined to be 16.65%. Based on the payroll shown above, projected to 2021, the annual computed contribution for 2021 will be $1,205,436 (or $100,453 per month). Due to extreme uncertainty in financial markets at this time the employer contribution established for calendar year 2021 will not be lower than the amount in effect for calendar year 2020.

Combined Rate

The combined rate that will be charged monthly is the sum of the LOPFI Plan rate of 23.50% AND the Local Pension and Relief Fund monthly contribution of $100,453.

Premium Tax

The above employer contribution rate does not reflect any Premium Tax the location may receive to defray the employer's cost. It was reported in 2019 that your location received $629,664 in Premium Tax for LOPFI-only cost and $317,563 in Premium Tax for Local Plan-only cost, which is contained in the Payroll Report provided by LOPFI.

Premium Tax for 2019 included an additional allocation to locations that made employer contributions (other than Premium Tax) that were equal to at least 80% of the actuarial cost of base benefits of the Local Fund. These allocations were credited directly to the Local Fund Employer Asset Account to decrease their unfunded actuarial accrued liability. The Local Fund's additional allocation for 2019 was $0.

Property Tax Millage

Your location reported to LOPFI staff that $633,519 in property tax millage (this amount was not audited by LOPFI or the actuaries) was collected in the 2019 calendar year. The millage is used solely by the employer to fund its employer contribution costs for the Local Fund and/or LOPFI. In the case where an employer has more than one department, the amount reported above was not broken down by department.

Other Observations

General Implications of Contribution Allocation Procedure or Funding Policy on Future Expected Plan Contributions and Funded Status

Given the plan's contribution allocation procedure, if all actuarial assumptions are met (including the assumption of the plan earning 7.50% on the actuarial value of assets), it is expected that:

(1) The unfunded actuarial accrued liabilities will be fully amortized after 17 years; and
(2) The funded status of the plan will increase gradually towards a 100% funded ratio.

Limitations of Funded Status Measurements

Unless otherwise indicated, a funded status measurement presented in this report is based upon the actuarial accrued liability and the actuarial value of assets. Unless otherwise indicated, with regard to any funded status measurements presented in this report:

(1) The measurement is inappropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations.
(2) The measurement is dependent upon the actuarial cost method which, in combination with the plan's amortization policy, affects the timing and amounts of future contributions. The amounts of future contributions will most certainly differ from those assumed in this report due to future actual experience differing from assumed experience based upon the actuarial assumptions. A funded status measurement in this report of 100% is not synonymous with no required future contributions.
(3) The measurement would produce a different result if the market value of assets were used instead of the actuarial value of assets, unless the market value of assets is used in the measurement.

Limitation of Project Scope

Actuarial standards do not require the actuary to evaluate the ability of the plan sponsor or other contributing entity to make required contributions to the plan when due. Such an evaluation was not within the scope of this project and is not within the actuary's domain of expertise. Consequently, the actuary performed no such evaluation.

Risks to Future Employer Contribution Requirements

There are ongoing risks to future employer contribution requirements to which the Retirement System is exposed, such as:

- Actual and Assumed Investment Rate of Return
- Actual and Assumed Wage Inflation
- Actual and Assumed Mortality Rates
- Amortization Policy

Risks Associated with Measuring the Accrued Liability and Actuarially Determined Contribution

The determination of the accrued liability and the actuarially determined contribution requires the use of assumptions regarding future economic and demographic experience. Risk measures, as illustrated in this report, are intended to aid in the understanding of the effects of future experience differing from the assumptions used in the course of the actuarial valuation. Risk measures may also help with illustrating the potential volatility in the accrued liability and the actuarially determined contribution that result from the differences between actual experience and the actuarial assumptions.

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 due to changing conditions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period, or additional cost or contribution requirements based on the Plan's funded status); and changes in plan provisions or applicable law. The scope of an actuarial valuation does not include an analysis of the potential range of such future measurements.

Examples of risk that may reasonably be anticipated to significantly affect the plan's future financial condition include:

1. **Investment Risk** – actual investment returns may differ from the expected returns;
2. **Asset/Liability Mismatch Risk** – changes in asset values may not match changes in liabilities, thereby altering the gap between the accrued liability and assets and consequently altering the funded status and contribution requirements;
3. **Contribution Risk** – actual contributions may differ from expected future contributions. For example, actual contributions may not be made in accordance with the plan's funding policy or material changes may occur in the anticipated number of covered employees or other relevant contribution base;
4. **Salary and Payroll Risk (applicable to plans with local active members)** – actual salaries and total payroll may differ from expected, resulting in actual future accrued liability differing from expected;
5. **Longevity Risk** – members may live longer or shorter than expected and receive pensions for a period of time other than assumed; and
6. **Other Demographic Risks (applicable to plans with local active members)** – members may terminate, retire or become disabled at times or with benefits other than assumed resulting in actual future accrued liability and contributions differing from expected.

The effects of certain trends in experience can generally be anticipated. For example, if the investment return since the most recent actuarial valuation is less (or more) than the assumed rate, the cost of the plan can be expected to increase (or decrease). Likewise, if longevity is improving (or worsening), increases (or decreases) in cost can be anticipated.

Plan Maturity Measures

Risks facing a pension plan evolve over time. A young plan with virtually no investments and paying few benefits may experience little investment risk. An older plan with a large number of members in pay status and a significant trust may be much more exposed to investment risk. Generally accepted plan maturity measures include the following:

	2019
Ratio of benefit payments to contributions	118.5%
Ratio of net cash flow to market value of assets^	N/A
Duration of the actuarial accrued liability	7.3
Funded ratio	0.0%

^Closed Plan assets are less than zero. LOPFI is loaning the shortages until the financing period is completed.

Ratio of Benefit Payments to Contributions

A ratio in excess of 100% means that benefits exceed contributions. This is generally expected to occur when benefits are prefunded through a qualified trust. Large ratios may indicate a super-mature plan or a need for additional contributions. Closed plan assets are less than zero. Contributions may exceed benefit payments for several years.

Ratio of Net Cash Flow to Market Value of Assets

A positive net cash flow means contributions exceed benefits and expenses. A negative cash flow means existing funds are being used to make payments. A certain amount of negative net cash flow is generally expected to occur when benefits are prefunded through a qualified trust. Large negative net cash flows as a percent of assets may indicate a super-mature plan or a need for additional contributions.

Duration

The duration of the actuarial accrued liability may be used to approximate the sensitivity to a 1% change in the assumed rate of return. For example, a duration of 10 indicates that the liability would increase approximately 10% if the assumed rate of return were lowered 1%.

Funded Ratio

The ratio of actuarial value of assets to actuarial accrued liabilities is expected to trend toward 100% in 17 years.

Additional Risk Assessment

Additional risk assessment is outside the scope of the annual actuarial valuation. Additional assessment may include scenario tests, sensitivity tests, stochastic modeling, stress tests, and a comparison of the present value of accrued benefits at low-risk discount rates with the actuarial accrued liability.

Relationship Between
LOPFI Plan Coverage (for Employees Hired After December 31, 1982) and “Closed Plan” Coverage (The Local Pension and Relief Fund for Employees Hired Before January 1, 1983)

LOPFI Plan

Closed Plan administration may cause one modification of future LOPFI financial activity: if the length of the financing period for unfunded liabilities causes Closed Plan assets to temporarily dip below zero, LOPFI would loan the shortages until the financing period is completed. When the Closed Plan financing period is completed, LOPFI will have been fully repaid (including investment credits) and the Closed Plan will be fully funded. However, the employer will not be relieved of all liability for the Closed Plan at that time. As long as Closed Plan benefits are payable there is a possibility that employer contributions will be needed.

Closed Plan

The financing period for the Local Fund unfunded liability is 17 years, beginning January 1, 2021.

Employer Contribution Rate

- ***Closed Plan.*** Each year the actuarial valuation determines a fixed monthly dollar employer contribution which covers the Local Pension and Relief Fund liabilities.

- ***LOPFI Plan.*** Each year the actuarial valuation determines a single employer contribution rate percent which covers the LOPFI Plan liabilities. The contribution rate percent is converted to dollars by multiplying the percent by the LOPFI active member payroll.

- ***Combined Rate. The combined rate that will be charged monthly is the sum of the LOPFI Plan rate, converted to dollars, and the Local Pension and Relief Fund monthly contribution.***

Arkansas Firemen's Local Pension and Relief Fund
Benefit Provisions Valued and/or Considered (Includes Act 397)
December 31, 2019

Voluntary Retirement

- **Eligibility** – 20 years of service regardless of age.
- **Amount** – Annual benefit equal to 75% of highest year's pay plus an additional $8,400 annually. Minimum benefit is $8,400 per year. If acquired more than 20 years of service credit, benefit is increased by $240 annually for each additional year of service credit. (Maximum $1,200 annual addition.) If acquired more than 25 years of service credit, retirant's benefit is increased at age 60 by 1.25% of highest year's pay for service over 25 years. (Maximum benefit is 100% of final salary.)

Disability Retirement

- **Eligibility** – Permanent physical or mental disability.
- **Amount** – Computed as voluntary retirement benefit. If the disability is duty related, the annual benefit is equal to the greater of voluntary retirement benefit or 65% of final salary.

Death Benefits

- **Eligibility** – Death before 20 years of service not occurring while performing work in gainful employment outside the department or death after 20 years of service. Also applicable to retired members.
- **Amount** – Widow receives the benefit the member was receiving or, in the case of an active employee, the amount the member would have received had the member retired the date of death. (Excluding the additional amount payable at member's age 60 for service over 25 years.) Minimum widow benefit is $8,400 annually. Each child receives $1,500 annually up to age 19.

Member Contributions

6% of salary. Member contributions are refundable without interest upon termination of employment prior to becoming eligible for retirement or death benefits.

Post-Retirement Benefit Increases

None.

Remarriage Provision (24-11-105)

Local Pension and Relief Fund Employer Assets

The assets were reported on a market value basis as of December 31, 2019.

Receipts and Disbursements

Balance - December 31, 2018	$	(1,522,890)
Receipts:		
Contributions – Employer*		1,234,102
Contributions – Employee		4,320
Local plan administrative mergers		-
Net investment income		-
Disbursements:		
Benefit payments, including refunds of employee contributions		(1,461,797)
Pension Plan Administrative Expense		-
Balance - December 31, 2019	$	(1,746,265)

** Includes assets reported as Premium Tax money.*

Actuarial Value of Assets were computed based upon the reported market values and are shown below:

Member Deposit Account	$	90,461
Retired Reserve Account		12,270,906
Employer Accumulation Account		(14,050,994)
DROP Reserve Account		-
Total Actuarial Value of Assets	$	(1,689,627)

Historical Schedules

Local Pension and Relief Fund

Actuarial Valuation Date	Active		Actuarial Value of Assets	Actuarial Accrued Liability	Final Employer Rate*
	Number#	Payroll			
12/31/2009	1	$ 54,050	$ 2,664,466	$ 13,842,202	32.69%
12/31/2010	1	49,298	2,015,029	14,133,379	34.45%
12/31/2011	1	56,690	1,374,313	14,032,714	35.62%
12/31/2012	1	55,553	811,088	14,189,338	36.49%
12/31/2013	1	56,487	333,219	13,990,168	37.14%
12/31/2014	1	56,383	(162,436)	13,808,917	38.49%
12/31/2015	1	58,593	(753,533)	13,779,011	40.28%
12/31/2016	1	65,293	(1,106,038)	13,718,116	$ 89,704
12/31/2017	1	72,000	(1,287,237)	13,781,250	96,239
12/31/2018	1	72,305	(1,634,429)	13,527,122	99,897
12/31/2019	1	72,000	(1,689,627)	13,042,164	100,453

 # Beginning with the 2014 valuation, Local DROP participants are excluded from this schedule.

** Beginning with the 2016 valuation, the Final Employer Rate is shown as a monthly dollar amount rather than a percent of active payroll.*

LOPFI and Local Active Participant Data

Actuarial Valuation Date	Active		DROP#		Total Active	
	Number	Payroll	Number	Payroll	Number	Payroll
12/31/2009	111	$ 5,023,778	-	$ -	111	$ 5,023,778
12/31/2010	112	5,096,238	-	-	112	5,096,238
12/31/2011	112	5,159,463	-	-	112	5,159,463
12/31/2012	111	5,124,984	1	67,786	112	5,192,770
12/31/2013	113	5,339,093	1	70,016	114	5,409,109
12/31/2014	112	5,283,630	2	132,263	114	5,415,893
12/31/2015	108	5,209,166	5	330,979	113	5,540,145
12/31/2016	110	5,790,956	3	255,234	113	6,046,190
12/31/2017	111	6,262,332	4	327,161	115	6,589,493
12/31/2018	111	6,314,025	4	323,999	115	6,638,024
12/31/2019	113	6,387,138	5	404,098	118	6,791,236

 # Beginning with the 2014 valuation, Local DROP participants are excluded from this schedule.

Historical Schedules
(Concluded)

Local Retiree Participant Data

Actuarial Valuation Date	Retired Number	Retired Annual Benefits	DROP Number	DROP Annual Benefits	Total Retired Number	Total Retired Annual Benefits
12/31/2009	57	$ 1,515,648	-	$ -	57	$ 1,515,648
12/31/2010	57	1,515,590	-	-	57	1,515,590
12/31/2011	56	1,502,690	-	-	56	1,502,690
12/31/2012	54	1,473,819	-	-	54	1,473,819
12/31/2013	54	1,473,819	-	-	54	1,473,819
12/31/2014	53	1,457,848	-	-	53	1,457,848
12/31/2015	52	1,424,863	-	-	52	1,424,863
12/31/2016	51	1,415,062	-	-	51	1,415,062
12/31/2017	50	1,397,051	-	-	50	1,397,051
12/31/2018	50	1,397,051	-	-	50	1,397,051
12/31/2019	47	1,345,825	-	-	47	1,345,825

Employer Contributions

For 2019, the political subdivision's annual pension cost of $1,154,868 was equal to the actuarially determined and actual contributions. The actuarially determined contribution was computed as part of the December 31, 2017 annual actuarial valuation using the entry age actuarial cost method.

Schedule of Funding Progress

Year Ended Dec 31	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded AAL (UAAL) (b)-(a)	Funded Ratio (a)/(b)	Covered Payroll (c)	UAAL as a Percent of Covered Payroll [(b)-(a)]/(c)
2009	$ 2,664,466	$ 13,842,202	$ 11,177,736	19 %	$ 5,023,778	222 %
2010	2,015,029	14,133,379	12,118,350	14 %	5,096,238	238 %
2011	1,374,313	14,032,714	12,658,401	10 %	5,159,463	245 %
2012	811,088	14,189,338	13,378,250	6 %	5,192,770	258 %
2013	333,219	13,990,168	13,656,949	2 %	5,409,109	252 %
2014	(162,436)	13,808,917	13,971,353	0 %	5,415,893	258 %
2015	(753,533)	13,779,011	14,532,544	0 %	5,540,145	262 %
2016	(1,106,038)	13,718,116	14,824,154	0 %	6,046,190	245 %
2017	(1,287,237)	13,781,250	15,068,487	0 %	6,589,493	229 %
2018	(1,634,429)	13,527,122	15,161,551	0 %	6,638,024	228 %
2019	**(1,689,627)**	**13,042,164**	**14,731,791**	**0 %**	**6,791,236**	**217 %**

Summary of
Financial Assumptions Used for LOPFI Actuarial Valuations
Assumptions Adopted by Board of Trustees
After Consulting With Actuary

The actuarial assumptions used in making the valuations are shown in this section of the report. The schedule references below refer to schedules in the Compiled Report on file with LOPFI. The demographic assumptions were recommended in connection with a study of experience covering the 2012-2016 period and economic assumptions were adopted by the Board in December 2017. The assumptions are established by the Board after consulting with the actuary as outlined in A.C.A. 24-10-205(a)(1).

Economic Assumptions

The investment return rate used in making the valuation was 7.50% per year, compounded annually (net after administrative expenses). This rate of return is not the assumed real rate of return. The real rate of return is the portion of investment return which is more than the wage inflation rate. With a 3.25% recognition of wage inflation, the 7.50% investment return rate translates to an assumed real rate of return of 4.25%.

Pay increase assumptions for individual active members are summarized in Schedule A-5. Part of the assumption for each age is for a merit and/or seniority increase (projected salary increases ranging from 0.5% to 15.0% per year, depending on service), and the other 3.25% recognizes wage inflation.

Total active member payroll is assumed to increase 3.25% a year, which is the portion of the individual pay increase assumptions attributable to wage inflation.

The number of active members is assumed to continue at the present number.

Non-Economic Assumptions

The mortality tables used to measure retired life mortality were the RP-2014 Healthy Annuitant benefit weighted generational mortality tables for males and females. The disability post-retirement mortality tables used were the RP-2014 Disabled Retiree benefit weighted generational mortality tables for males and females. The death-in-service mortality tables used were the RP-2014 Employee benefit weighted generational mortality tables for males and females. Fifty percent of deaths-in-service were assumed to be duty related. The tables applied credibility adjustments of 135% for males and 125% for females and were adjusted for fully generational mortality improvements using Scale MP-2016. Related retired life mortality values are shown in Schedule A-1.

The probabilities of retirement for members eligible to retire are shown in Schedule A-3.

The probabilities of withdrawal from service are summarized in Schedule A-4, and the ***probabilities of disability*** are summarized in Schedule A-2.

An individual entry age actuarial cost method of valuation was used in determining age and service allowance normal costs and the allocation of actuarial present values between service rendered before and after the valuation date. The entry-age actuarial cost method has the following characteristics:

- the annual normal costs for each individual active member, payable from the member's actual date of employment to the member's projected date of retirement are sufficient to accumulate the actuarial present value of the member's benefit at the time of retirement; and
- each annual normal cost is: (a) a constant percentage of the member's year by year projected covered pay for paid service plans, or (b) a constant dollar amount for volunteer service plans.

Differences in the past between assumed experience and actual experience ("actuarial gains and losses") are inevitable and become part of accrued liabilities. In LOPFI, cumulative actuarial losses and gains are the same as unfunded (or overfunded) accrued liabilities.

Unfunded accrued liabilities are amortized to produce contribution amounts (principal and interest) which are (a) level percent of payroll contributions over a period of future years for paid service plans, or (b) level dollar amounts for volunteer service plans.

Other Technical Assumptions

Decrements are assumed to occur at the middle of the valuation year.

The probability of being married, for death-in-service benefits, is assumed to be 90%.

Members who are eligible to participate in the DROP are assumed to enter the DROP with high probability as members would reach the maximum benefit (as a percent of final average pay) shortly after first eligibility to enter the DROP.

Future service credits are always assumed to accrue at the rate of 1 year of credit every 12 calendar months. Lower service accrual rates (service breaks or less-than-full-time employment) or higher service accrual rates (addition of military credit or reinstatement of prior service) are reflected as they are reported. Any lower or higher accrual rates may result in small financial gains or losses when reported.

The form of benefit payment assumed in the valuation for local plans under LOPFI administration is a 100% joint and survivor for police plans and the Life Option for fire plans. For local fire plans under LOPFI administration who have adopted Act 397, the assumed form of benefit payment is 100% joint and survivor.

Employer contribution dollars were assumed to be ***paid in equal installments*** throughout the employer fiscal year.

Present assets (cash & investments) were valued on a market related basis in which differences between actual and assumed returns are phased-in over a five-year period. The actuarial value of assets may not deviate from the market value of assets by more than 20%.

The data about persons now covered and about present assets were furnished by the System's administrative staff. Although examined for general reasonableness, the data was not audited by the Actuary.