June 2011

Actuarial valuation report as of January 1, 2011 for the 2011 Fiscal Year

The City of Ladue Firemen and Policemen's Pension Plan

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Mr. Rick Jett
Finance Director
City of Ladue
9345 Clayton Road
Ladue, MO 63124

Subject: Actuarial valuation report

Dear Rick:

Submitted in this report are the January 1, 2011 actuarial valuation results for the City of Ladue Firemen and Policemen's Pension Plan. The purposes of this report are to:

- Present Mercer's actuarial estimates of the Plan's liabilities and expenses as of January 1, 2011 for the City of Ladue to incorporate, as the City deems appropriate, in its financial statements; and

- Provide the funding policy contribution for the year beginning January 1, 2011

We are available to answer any questions on the material in this report or to provide explanations or further details as appropriate. The undersigned credentialed actuaries meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report. We are not aware of any direct or material indirect financial interest or relationship, including investments or other services that could create a conflict of interest, that would impair the objectivity of our work.

Respectfully submitted,

Ann E. Bremehr

Ann E. Bremehr, FSA

Bonita J. Wurst

Bonita J. Wurst, ASA

1. Report highlights

Below are highlights of the results from the January 1, 2011 valuation and a comparison to the last actuarial valuation as of January 1, 2010.

	January 1, 2011	January 1, 2010
Actuarial accrued liability	$ 31,598,942	$ 30,728,346
Funded ratio	73.01%	71.90%
Actuarial asset value	23,071,952	22,092,661
Unfunded actuarial accrued liability	8,526,990	8,635,685
Normal cost	417,849	388,486
Funding policy contribution (end of year)	1,100,673	1,092,786

Due to the asset smoothing method used, the actuarial value of assets (AVA) used to determine the employer contribution rate(s) in this valuation exceeds the market value of assets (MVA) by 3.8%. Absent future actuarial gains to offset the investment losses being smoothed, future employer contributions will increase as past investment losses become recognized. If asset smoothing methods were not used for this valuation, the employer funding policy contribution, based on the market value of assets, would have been $1,165,508.

Changes in plan provisions

There were no changes in plan provisions since the previous valuation.

Changes in actuarial assumptions

The discount rate was changed from 7.75% to 7.50% and the healthy mortality assumption was changed from RP-2000 combined active/retired, white collar adjustment, with a fixed 7 year projection to the same table with a fixed 17 year projection.

These assumption changes increased the actuarial accrued liability $1.2 million and increased the funding policy contribution $122,000.

Changes in actuarial methods

There were no changes in methods since the previous valuation.

Plan experience during prior plan year

During 2010, the plan experienced a net actuarial gain of $300,000. This gain consisted of a $1,000,000 liability gain and a $700,000 asset loss. During 2010, the yield rate based on the actuarial value of assets was approximately 4.4% compared to an assumed 7.75% return. The return on a market value basis was approximately 13.6%.

The liability gain was primarily due to lower than expected 2010 salary increases.

2. Important notices

Mercer has prepared this report exclusively for the City of Ladue; Mercer is not responsible for reliance upon this report by any other party. Subject to this limitation, the City of Ladue may direct that this report be provided to its auditors.

The only purposes of this report are to:

- Present Mercer's actuarial estimates of the Plan's liabilities and expenses for the City of Ladue to incorporate, as the City deems appropriate, in its financial statements; and

- Provide the funding policy contribution for the year beginning January 1, 2011

This report may not be used for any other purpose; Mercer is not responsible for the consequences of any unauthorized use.

Decisions about benefit changes, granting new benefits, investment policy, funding policy, benefit security and/or benefit-related issues should not be made on the basis of this valuation, but only after careful consideration of alternative economic, financial, demographic and societal factors, including financial scenarios that assume future sustained investment losses.

The City of Ladue is solely responsible for selecting the plan's investment policies, asset allocations and individual investments. Mercer's actuaries have not provided any investment advice to the City of Ladue.

A valuation report is only a snapshot of a Plan's estimated financial condition at a particular point in time; it does not predict the Plan's future financial condition or its ability to pay benefits in the future and does not provide any guarantee of future financial soundness of the Plan. Over time, a plan's total cost will depend on a number of factors, including the amount of benefits the plan pays, the number of people paid benefits, the period of time over which benefits are paid, plan expenses and the amount earned on any assets invested to pay benefits. These amounts and other variables are uncertain and unknowable at the valuation date.

Because modeling all aspects of a situation is not possible or practical, we may use summary information, estimates, or simplifications of calculations to facilitate the modeling of future events in an efficient and cost-effective manner. We may also exclude factors or data that are immaterial in our judgment. Use of such simplifying techniques does not, in our judgment, affect the reasonableness of valuation results for the plan.

To prepare the valuation report, actuarial assumptions, as described in Section 8, are used in a forward looking financial and demographic model to present a single scenario from a wide range of possibilities; the results based on that single scenario are included in the valuation. The future is uncertain and the plan's actual experience will differ from those assumptions; these differences may be significant or material because these results are very sensitive to the assumptions made and, in some cases, to the interaction between the assumptions.

Different assumptions or scenarios within the range of possibilities may also be reasonable and results based on those assumptions would be different. As a result of the uncertainty inherent in a forward looking projection over a very long period of time, no one projection is uniquely "correct" and many alternative projections of the future could also be regarded as reasonable. Two different actuaries could, quite reasonably, arrive at different results based on the same data and different views of the future. A "sensitivity analysis" shows the degree to which results would be different if you substitute alternative assumptions within the range of possibilities for those utilized in this report. We have not been engaged to perform such a sensitivity analysis and thus the results of such an analysis are not included in this report. At the City of Ladue's request, Mercer is available to perform such a sensitivity analysis.

Actuarial assumptions may also be changed from one valuation to the next because of changes in mandated requirements, plan experience, changes in expectations about the future and other factors. A change in assumptions is not an indication that prior assumptions were unreasonable when made.

The calculation of actuarial liabilities for valuation purposes is based on a current estimate of future benefit payments. The calculation includes a computation of the "present value" of those estimated future benefit payments using an assumed discount rate; the higher the discount rate assumption, the lower the estimated liability will be. For purposes of estimating the liabilities (future and accrued) in this report, you selected an assumption based on the expected long term rate of return on plan investments. Using a lower discount rate assumption, such as a rate based on long-term bond yields, could substantially increase the estimated present value of future and accrued liabilities.

Because valuations are a snapshot in time and are based on estimates and assumptions that are not precise and will differ from actual experience, contribution calculations are inherently imprecise. There is no uniquely "correct" level of contributions for the coming plan year.

Valuations do not affect the ultimate cost of the Plan, only the timing of contributions into the Plan. Plan funding occurs over time. Contributions not made this year, for whatever reason, including errors, remain the responsibility of the Plan sponsor and can be made in later years. If the contribution levels over a period of years are lower or higher than necessary, it is normal and expected practice for adjustments to be made to future contribution levels to take account of this with a view to funding the plan over time.

Data, computer coding and mathematical errors are possible in the preparation of a valuation involving complex computer programming and thousands of calculations and data inputs. Errors in a valuation discovered after its preparation may be corrected by amendment to the valuation or in a subsequent year's valuation.

Assumptions used are based on the last experience study, as adopted by the Board, with updates to the investment return and mortality assumptions, The City of Ladue is responsible for selecting the plan's funding policy, actuarial valuation methods, asset valuation methods, and assumptions. The policies, methods and assumptions used in this valuation are those that have been so prescribed and are described in Sections 7 and 8. The City of Ladue is solely responsible for communicating to Mercer any changes required thereto.

To prepare this report Mercer has used and relied on financial data and participant data supplied by the City of Ladue and summarized in the valuation report in Sections 5 and 6. The City of Ladue is responsible for ensuring that such participant data provides an accurate description of all persons who are participants under the terms of the plan or otherwise entitled to benefits as of January 1, 2011 that is sufficiently comprehensive and accurate for the purposes of this report. Although Mercer has reviewed the data in accordance with Actuarial Standards of Practice No. 23, Mercer has not verified or audited any of the data or information provided.

Mercer has also used and relied on the plan documents, including amendments, and interpretations of plan provisions, supplied by the City of Ladue as summarized in the valuation report in Section 9. We have assumed for purposes of this valuation that copies of any official plan document including all amendments and collective bargaining agreements as well as any interpretations of any such document have been provided to Mercer along with a written summary of any other substantive commitments. The City of Ladue is solely responsible for the validity, accuracy and comprehensiveness of this information. If any data or plan provisions supplied are not accurate and complete, the valuation results may differ significantly from the results that would be obtained with accurate and complete information; this may require a later revision of this report. Moreover, plan documents may be susceptible to different interpretations, each of which could be reasonable, and that the different interpretations could lead to different valuation results.

The City of Ladue should notify Mercer promptly after receipt of this report if the City of Ladue disagrees with anything contained in the report or is aware of any information that would affect the results of the report that has not been communicated to Mercer or incorporated therein. The report will be deemed final and acceptable to the City of Ladue unless the City of Ladue promptly provides such notice to Mercer.

The information contained in this document (including any attachments) is not intended by Mercer to be used, and it cannot be used, for the purpose of avoiding penalties under the Internal Revenue Code that may be imposed on the taxpayer.

3. Valuation results

	Actuarial Valuation as of	
	January 1, 2011	January 1, 2010
Funding Valuation		
Actuarial accrued liability	$ 31,598,942	$ 30,728,346
Funded ratio	73.01%	71.90%
Actuarial asset value	23,071,952	22,092,661
Unfunded actuarial accrued liability	8,526,990	8,635,685
Normal cost	417,849	388,486
Funding policy contribution (end of year)	1,100,673	1,092,786
Participant Data		
Number of participants in valuation		
Active participants	55	55
Participants with deferred benefits	2	0
Participants receiving benefits	51	51
Total	108	106
Active Participant Statistics		
Average age	41.6	41.4
Average years of service	14.4	14.0

Unfunded actuarial accrued liability

The actuarial accrued liability is the present value of projected plan benefits allocated to past service by the actuarial funding method being used.

	January 1, 2011	January 1, 2010
1. Actuarial accrued liability		
a. Active participants		
Retirement benefits	$ 13,089,129	$ 12,405,863
Withdrawal benefits	0	0
Disability benefits	352,650	360,824
Death benefits	88,796	148,969
Return of contributions	(68,419)	(62,845)
Total	13,462,156	12,852,811
b. Participants with deferred benefits	152,054	0
c. Participants receiving benefits	17,984,732	17,875,535
d. Actuarial accrued liability *(a. + b. + c.)*	31,598,942	30,728,346
2. Actuarial asset value	23,071,952	22,092,661
3. Funded ratio *(2. ÷ 1.d.)*	73.01%	71.90%
4. Unfunded actuarial accrued liability *(1.d. – 2., not less than $0)*	**$ 8,526,990**	**$ 8,635,685**

Normal Cost

The components of normal cost under the plan's funding method are:

Component	January 1, 2011	January 1, 2010
1. Normal cost		
a. Retirement benefits	$ 449,240	$ 427,845
b. Withdrawal benefits	0	0
c. Disability benefits	29,917	28,872
d. Death benefits	12,645	14,232
e. Return of contributions	16,368	17,566
f. Expenses	25,000	25,000
g. Total	533,170	513,515
2. Expected employee contributions	115,321	125,029
3. Total normal cost *(1.g. – 2.)*	**$ 417,849**	**$ 388,486**

Funding policy contribution

The funding policy contribution consists of the normal cost calculated under the entry age cost method, a 20-year amortization of the unfunded actuarial accrued liability (as a level percentage of projected pay) and interest to the end of the plan year.

	Plan year ending	
	December 31, 2011	December 31, 2010
1. Normal cost at beginning of year	$ 417,849	$ 388,486
2. 20-year amortization of the unfunded actuarial accrued liability at end of year	648,098	670,316
3. Interest on 1. to end of year	34,726	33,984
4. Funding policy contribution (*1. + 2. + 3.)*	**$ 1,100,673**	**$ 1,092,786**

4. GASB disclosures

Provided below is the financial reporting information for the plan.

Schedule of funding progress

Actuarial Valuation Date	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 Percentage of Covered Payroll (b) – (a) / (c)
01/01/2002	$ 17,007,931	$ 19,295,567	$ 2,287,636	88.1%	$ 3,428,896	66.7%
01/01/2003	15,204,281	21,411,392	6,207,111	71.0%	3,586,895	173.0%
01/01/2004	17,194,086	23,255,866	6,061,780	73.9%	3,581,760	169.2%
01/01/2005	17,267,814	24,530,293	7,262,479	70.4%	3,651,659	198.9%
01/01/2006	17,426,067	25,861,569	8,435,502	67.4%	3,782,856	223.0%
01/01/2007	18,106,583	27,471,232	9,364,649	65.9%	4,102,912	228.2%
01/01/2008	19,999,879	28,526,368	8,526,489	70.1%	4,245,175	200.9%
01/01/2009	18,266,006	29,214,709	10,948,703	62.5%	4,469,088	245.0%
01/01/2010	22,092,661	30,728,346	8,635,685	71.9%	4,447,537	194.2%
01/01/2011	23,071,952	31,598,942	8,526,990	73.0%	4,246,707	200.8%

While not required by the governmental accounting standards, the following schedule shows the funding progress of the plan based on the market value of assets.

Actuarial Valuation Date	Market Value of Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded AAL (b) – (a)	Funded Ratio (a)/(b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll (b) – (a) / (c)
01/01/2008	$ 19,843,121	$ 28,526,368	$ 8,683,247	69.6%	$ 4,245,175	204.5%
01/01/2009	15,221,672	29,214,709	13,993,037	52.1%	4,469,088	313.1%
01/01/2010	19,545,180	30,728,346	11,183,166	63.6%	4,447,537	251.4%
01/01/2011	22,218,930	31,598,942	9,380,012	70.3%	4,246,707	220.9%

Schedule of employer contributions

The annual required contributions as defined in the governmental accounting standards and ratio of actual to required contributions are as follows:

Year Ended December 31	Annual Required Contribution	Percentage Contributed
2002	$ 567,169	100%
2003	910,979	100%
2004	906,696	100%
2005	983,068	100%
2006	1,129,573	100%
2007	1,210,076	150%
2008	1,055,357	212%
2009	1,255,382	180%
2010	1,092,786	155%
2011	1,100,673	*

** Cannot be determined until all 2011 contributions have been made.*

Financial reporting accounting requirements – net pension cost and net pension obligation

Provided below is additional information required for financial reporting by the City of Ladue.

Annual pension cost and net pension obligation

The City's annual pension cost and net pension obligation for the City's fiscal years ending December 31, 2011 and December 31, 2010 are as follows:

	December 31, 2011		December 31, 2010	
1. Annual required contribution	$	1,100,673	$	1,092,786
2. Interest on net pension obligation		(253,801)		(215,787)
3. Adjustment to annual required contribution		(257,204)		(216,126)
4. Annual pension cost *(1. + 2. – 3.)*		1,104,076		1,093,125
5. Contributions made		*		1,692,786
6. Increase (decrease) in net pension obligation *(4. – 5.)*		*		(599,661)
7. Net pension obligation beginning of year		(3,384,014)		(2,784,353)
8. Net pension obligation end of year *(6. + 7.)*	**$**	*****	**$**	**(3,384,014)**

* *Cannot be determined until all 2011 contributions have been made.*

Trend Information

Fiscal Year Ending	Annual Pension Cost (APC)	Percentage of APC Contributed	Net Pension Obligation
2002	$ 567,169	100.0%	$ 0
2003	910,979	100.0%	0
2004	906,696	100.0%	0
2005	983,068	100.0%	0
2006	1,129,573	100.0%	0
2007	1,210,076	149.6%	(600,000)
2008	1,055,430	212.2%	(1,784,570)
2009	1,255,599	179.6%	(2,784,353)
2010	1,093,125	154.9%	(3,384,014)
2011	1,104,076	*	*

* *Cannot be determined until all 2011 contributions have been made.*

5. Plan assets

Summary of assets		Market Value as of December 31, 2010	Percentage of Total
Cash or cash equivalents:	$	549,810	2.47%
Investments:			
▪ Corporate bond funds		7,220,938	32.50%
▪ Corporate stocks – domestic		9,657,889	43.47%
▪ Corporate stock – international		2,610,690	11.75%
▪ Alternative investments		1,986,394	8.94%
Accounts receivable		46,128	0.21%
Prepaid expense		147,081	0.66%
Net assets	$	22,218,930	100.00%

	Plan year ending			
Reconciliation of assets (market value)		December 31, 2010		December 31, 2009
Net assets at beginning of year	$	19,545,180	$	15,221,672
Contributions received				
▪ City		1,692,786		2,255,382
▪ Employee		129,609		136,030
Investment earnings				
▪ Interest and dividends		608,571		525,206
▪ Realized and unrealized gain/(loss)		2,114,560		3,163,414
Other income				0
Disbursements				
▪ Benefit payments to participants or beneficiaries		(1,782,193)		(1,687,646)
▪ Investment expenses		(56,734)		(47,118)
▪ Administrative expenses		(32,849)		(21,760)
Net income	$	2,673,750	$	4,323,508
Net assets at end of year	$	22,218,930	$	19,545,180
Actual investment return		13.64%		23.40%

Actuarial value of assets

1.	Preliminary actuarial value of assets at January 1, 2010	$ 22,092,661
2.	Contributions	1,822,395
3.	Benefit payments	(1,782,193)
4.	Expenses	(32,849)
5.	Expected interest at 7.75% on 1. + 2. + 3. + 4.	1,712,466
6.	Expected actuarial value of assets at December 31, 2010 *(1. + 2. + 3. + 4. + 5.)*	23,812,480
7.	Market value of assets at December 31, 2010	22,218,930
8.	Adjustments to reflect market value *(see following table)*	(740,528)
9.	Preliminary actuarial value at December 31, 2010 *(6. + 8.)*	23,071,952
10.	80% of market value at December 31, 2010	17,775,144
11.	120% of market value at December 31, 2010	26,662,716
12.	**Actuarial value of assets at December 31, 2010** *(9., but not less than 10. nor more than 11.)*	**$ 23,071,952**

Schedule of market value adjustments

Year	Gain/(Loss) Base	Unrecognized Balance 1/1/2010	12/31/2010 Adjustment	Unrecognized Balance 1/1/2011
2006	$ 528,778	$ 105,754	$ 105,754	$ 0
2007	(286,279)	(114,511)	(57,256)	(57,255)
2008	(6,902,632)	(4,141,580)	(1,380,526)	(2,761,054)
2009	2,003,570	1,602,856	400,714	1,202,142
2010	953,931[1]	N/A	190,786	763,145
Total	**N/A**	**$ (2,547,481)**	**$ (740,528)**	**$ (853,022)**

[1] 7. – 6. – Unrecognized balance January 1, 2010.

6. Participant data

Statistics

	Plan year beginning	
	January 1, 2011	**January 1, 2010**
Participants included in valuation		
▪ Active participants		
– Vested	30	29
– Non-vested	25	26
– Total actives	55	55
▪ Inactive with deferred benefits	2	0
▪ Inactive with immediate benefits	51	51
▪ Total	108	106
Active participant statistics		
▪ Average age	41.6	41.4
▪ Average years of service	14.4	14.0
▪ Total compensation[2]	$ 4,246,707	$ 4,447,537
▪ Average compensation[2]	77,213	80,864
Inactive deferred statistics		
▪ Average age	44.1	N/A
▪ Total monthly benefits	$ 2,379	N/A
▪ Average monthly benefits	1,189	N/A
Inactive immediate statistics		
▪ Average age	65.0	66.5
▪ Total monthly benefits	$ 143,425[3]	$ 146,174[3]
▪ Average monthly benefits	2,812	2,866

[2] Annualized earnings for prior calendar year increased by the salary assumption of 4.75%.

[3] Includes benefits for two alternate payees and two children of a disabled participant.

Participant data reconciliation

		Inactive participants		
	Active participants	**With deferred benefits**	**Receiving benefits**	**Total**
Beginning of the year	55	0	51[4]	106
Retirements	0	0	0	0
Disabilities	0	0	0	0
Deaths	0	0	0	0
Non-vested terminations	(3)	N/A	N/A	(3)
Vested terminations	(2)	2	N/A	0
Rehires	0	0	0	0
Lump sum payouts	0	0	0	0
Survivors	N/A	0	0	0
New entrants	5	N/A	N/A	5
Data corrections	0	0	0	0
Net change	0	2	0	2
End of the year	55	2	51[4]	108

[4] Counts do not include two children and two alternate payees.

Distribution of active participants

	Years of service as of January 1, 2011								
Age	Under 1	1 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30+	**Total**
Under 25	1								1
25 – 29	2	2							4
30 – 34		2	5	1					8
35 – 39	2	4	5	2					13
40 – 44		1	1	1	4	1			8
45 – 49				1	1	2	2		6
50 – 54						3	3	3	9
55 – 59					1		1	2	4
60 – 64								2	2
65 – 69									0
70 & up									0
Total	5	9	11	5	6	6	6	7	55

In each cell, the number is the count of active employees for each age/service combination.

7. Actuarial methods and policies

Actuarial cost method

Actuarial cost method: Liabilities and contributions shown in this report are computed using the individual entry age normal method of funding. The objective under this method is to fund each participant's benefits under the plan as payments which are level as a percentage of salary, starting at the original employment date and continuing until the assumed retirement, termination, disability or death.

At the time the funding method is introduced, there will be a liability which represents the contributions which would have been accumulated if this method of funding had always been used. The difference between this liability and the assets (if any) which are held in the fund is the unfunded liability, which is typically funded over a chosen period in accordance with an amortization schedule.

A detailed description of the calculation follows:

- The normal cost for each active participant under the assumed retirement age is determined by applying to compensation the level percentage of salary which, if contributed each year from date of entry into the plan until the assumed retirement (termination, disability or death) date, is sufficient to provide the full value of the benefits expected to be payable.

- The present value of future normal costs is the total of the discounted values of all active participants' normal costs, assuming these to be paid in each case from the valuation date until retirement (termination, disability or death) date.

- The present value of projected benefits is calculated as the value of all benefit payments expected to be paid to the plan's current participants, including active and retired members, beneficiaries, and terminated members with vested rights.

- The accrued liability is the excess of the present value of projected benefits over the present value of future normal costs.

- The unfunded liability is the excess of the accrued liability over the actuarial asset value of the fund, and represents that part of the accrued liability which has not been funded by accumulated past contributions.

Amortization of unfunded actuarial accrued liability

The unfunded actuarial accrued liability is amortized over 20 years as a level percentage of projected payroll, assuming projected payroll increases of 3% per year.

Because the unfunded actuarial liability (UAL) is being amortized by an open or rolling amortization period (with re-amortization of the UAL in each valuation), the amortization amounts will never fully eliminate the UAL.

Method for determining actuarial value of assets

The actuarial asset value is based on a five-year moving average of expected and market values determined as follows:

- At the end of each plan year, an expected asset value is calculated as the sum of the previous year's preliminary actuarial value increased with a year's interest at the plan valuation rate plus net cash flow adjusted for interest (at the same rate) to the end of the plan year;

- The investment gain/(loss) is the excess of the current market value over the sum of the expected asset value plus the unrecognized balances of investment gains/(losses) for the previous five years;

- The investment gain/(loss) so determined is recognized in five equal installments in the actuarial valuation immediately following the year in which such gain/(loss) incurred;

- The preliminary actuarial asset value is the sum of the expected asset value plus the installments of investment gains/(losses) during the preceding five plan years; and

- The actuarial asset value is the preliminary value but in no case more than 120% of the market value or less than 80% of the market value.

Funding policy

The funding policy contribution is the normal cost with interest to the end of the plan year plus a 20-year amortization of the unfunded accrued liability as a level percentage of projected payroll.

Changes in actuarial methods since prior valuation

None.

8. Summary of actuarial assumptions

The following assumptions were used in valuing the liabilities and benefits under the plan. These assumptions are based on the last experience study, as adopted by the Board, with updates to the investment return and mortality assumptions. The City of Ladue is responsible for selecting the assumptions used for this valuation.

Investment return	7.50% per year compounded annually.
Salary increases	4.75% per year compounded annually.
Inflation	3.00% per year.
Expenses	$25,000 per year.
Mortality	
▪ Healthy	RP-2000 Combined White Collar Mortality table projected to 2017 by Scale AA for males and females. Active deaths are assumed to be 50% duty related. See table of sample rates.
▪ Disabled	Post-1994 Disability Mortality table as prescribed by IRS Revenue Ruling 96-7. See table of sample rates
Demographic assumptions	
Disability	
▪ Rates	1985 Pension Disability Table – Class 3. Disabilities are assumed to be 75% duty related. See table of sample rates.
▪ Duration of disability	Factors varying by age for active participants and age at disability for disabled participants after January 1, 2008

Age	Duration
Under 45	10 years
45 – 54	8 years
55 – 59	5 years
60 and over	2 years

Withdrawal	Rates varying by age. See table of sample rates.

Retirement	Rates varying by age for active participants.
	Age / **Retirement Rate** 55 / 0.25 56-58 / 0.20 59 / 0.50 60 / 1.00
	For vested terminations, 100% at age 55.
Percentage married	80% for active participants. Actual information is used for retirees.
Child prevalence	Active members are assumed to have one child at the time of disability and, if assumed married, one child at time of death. The child is assumed to be born at the member's age 28.
Age difference	A married male is assumed to be four years older than his spouse. Actual spouse birth date is used for retirees.
Form of payment	Life annuity with a postretirement death benefit payable to spouses and eligible children, except terminations before retirement are assumed to elect a return of contributions.

Retirement rates:

Age	Retirement Rate
55	0.25
56-58	0.20
59	0.50
60	1.00

Table of sample rates

Attained Age	Rate					
	Mortality – Healthy		Mortality – Disabled			
	Male	Female	Male	Female	Disability	Withdrawal
20	.0002	.0001	.0246	.0097	.0014	.1000
25	.0003	.0002	.0275	.0120	.0020	.0800
30	.0003	.0002	.0307	.0148	.0030	.0550
35	.0005	.0004	.0342	.0177	.0042	.0340
40	.0008	.0005	.0384	.0206	.0059	.0140
45	.0011	.0008	.0430	.0240	.0082	.0020
50	.0015	.0012	.0480	.0280	.0122	.0000
55	.0024	.0023	.0531	.0326	.0209	.0000
60	.0042	.0043	.0581	.0380	.0310	.0000
65	.0087	.0079	.0637	.0443	.0412	.0000
70	.0149	.0139	.0733	.0513	.0000	.0000
75	.0265	.0224	.0889	.0626	.0000	.0000
80	.0501	.0382	.1071	.0805	.0000	.0000
85	.0929	.0670	.1333	.1094	.0000	.0000
90	.1665	.1199	.1734	.1535	.0000	.0000
95	.2544	.1807	.2341	.2170	.0000	.0000
100	.3387	.2335	.3192	.3034	.0000	.0000

Changes in assumptions since prior valuation

The discount rate was changed from 7.75% to 7.50% and the healthy mortality assumption was changed from RP-2000 combined active/retired, white collar adjustment, with a fixed 7 year projection to the same table with a fixed 17 year projection.

9. Summary of plan provisions

Following is a summary of the major plan provisions used in the valuation of this report. The City of Ladue is solely responsible for the validity, accuracy and comprehensiveness of this information. If any of the plan provisions shown below are not accurate and complete, the valuation results may differ significantly from those shown in this report and may require a revision of this report. Moreover, these plan provisions may be susceptible to different interpretations, each of which could be reasonable, and that the different interpretations could lead to different valuation results.

Effective date	May 1, 1947; last amended effective November 9, 2007.
Plan year	January 1 through December 31.
Sponsoring employer	The City of Ladue.
Participating employees	All salaried uniformed employees of the Fire Department and of the Police Department of the City of Ladue.
Administration	Trust
Type of plan	Defined benefit.
Eligibility	Hire date.
Actuarial equivalence	Based on UP84 Mortality set back one year and 5% interest.
Employee contributions	Each participant contributes 3% of salary to the pension fund. The interest rate used to accumulate contributions as set by the Retirement Committee is 4%.
Salary	Compensation paid to an employee by the City of Ladue for personal services rendered during a calendar year, including vacation pay, unused sick pay, pretax contributions to deferred compensation and cafeteria plans, and LTD premiums paid on behalf of the employee.
Final average monthly salary	Average monthly salary during the last five years of employment. For disabled employees, the average shall be determined as of the date they ceased to be actively employed due to disability.
Career average monthly salary	Average monthly salary during an employee's entire period of service. For disabled employees, the average shall be determined as of the date they ceased to be actively employed due to disability.
Credited service	The period of continuous employment and periods while a participant is employed or receiving LTD benefits or disability benefits under the plan (or while on an FMLA leave).

Normal retirement	
▪ Eligibility	The date the employee attains age 55 and completes 10 years of service.
▪ Benefit	A participant who retires with 20 or more years of service receives a monthly benefit equal to 40% of Final Average Monthly Salary plus 2.5% of Final Average Monthly Salary for each year of credited service between 20 and 30 years. A participant who retires with less than 20 years of service will receive a monthly benefit equal to 2% of Career Average Monthly Salary multiplied by years of credited service.
▪ Increase in retirement benefit	The benefit of any participant who retired on or after April 17, 1972 is adjusted on January 1 each year, starting with the second January after benefits became payable. The adjustment will equal the change in the Consumer Price Index since the last adjustment, to the nearest one-tenth of one percent, provided that if the increase is less than 1% then the adjustment factor is zero, and if the increase is 2% or more, then the adjustment factor is 2%. If the CPI decreases, the adjustment factor will be zero unless the decrease is 2% or more. The maximum cumulative increase that a Participant may receive is 20%.
Deferred retirement	A participant may continue on the City's payroll and defer his pension after reaching age 55 upon discretion of the City Council.
Early retirement	
▪ Eligibility	The first day of any month following attainment of age 50 and completion of 10 years of service.
▪ Benefit	The participant's accrued benefit, actuarially reduced, based on his salary and length of service at retirement.
Disability benefit	Disability benefits prior to retirement are paid outside of the plan through an insurance company. Upon cessation of payments, the early retirement, normal retirement, late retirement or termination provisions will apply if the participant has 10 years of Credited Service when payments cease.

Death

▪ Benefit for active participants	Duty: The spouse or eligible children receive a monthly benefit equal to 50% of the deceased participant's average monthly wages during the five years immediately prior to death, plus 10% of such monthly salary for each unmarried dependent child under age 18, up to a maximum of three children. Non-Duty: The spouse, who has attained age 50, or the eligible children of a participant who dies after completing at least one year of service will receive a monthly benefit equal to 5% of the participant's Final Average Monthly Salary, multiplied by the participant's completed years of service, up to a maximum of 24% of the Final Average Monthly Salary. If there are unmarried dependent children under age 18 living at home, an additional 2% of the average monthly salary times completed years of service up to a maximum of 10% of the average monthly salary will be payable for each child, up to three.
▪ Benefit for disabled participants	Duty Disability: The spouse or eligible children of a participant who dies following duty disability retirement will receive a monthly benefit equal to 40% of the participant's Final Average Monthly Salary, plus 10% of such monthly salary for each unmarried dependent child under age 18, up to three. Non-Duty Disability: The spouse or eligible children of a participant who dies following non-duty disability retirement will receive a monthly benefit equal to 2/3 of the pension that the disabled retiree was receiving, plus 1/3 of such pension for each unmarried dependent child under age 18, up to three.
▪ Postretirement benefit	The spouse or eligible children of a participant who dies following normal retirement will receive a monthly benefit equal to 50% of the pension that the retiree had been receiving, provided: (a) The surviving spouse had attained age 50, or (b) There are unmarried dependent children under age 18 who are dependent on the surviving spouse. Upon death of the surviving spouse, payments will continue until all children have married or attained age 18.

Termination benefit	A participant who terminates his employment prior to completion of 10 years of service will receive a refund of his accumulated contributions with interest. A participant who terminates after completing at least 10 years of service may receive either a refund of his accumulated contributions with interest, an accrued benefit or a reduced benefit payable at an early commencement date.
Form of payment	The normal form of benefit payment is a monthly life annuity with a postretirement death benefit possibly payable to a spouse or eligible children.

Changes in plan provisions since prior valuation

None.

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