

**The City of Ladue Firemen and  
Policemen's Pension Plan**

**Actuarial Valuation as of January 1, 2013**

**Prepared April 2013**

**The City of Ladue Firemen and  
Policemen's Pension Plan**

**January 1, 2013 Actuarial Valuation**

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# **The City of Ladue Firemen and Policemen's Pension Plan**

## **January 1, 2013 Actuarial Valuation**

### **Introduction and Purpose**

In this report, we present the results of the January 1, 2013 actuarial valuation for the City of Ladue Firemen and Policemen's Pension Plan. The report has been prepared at the request of the City for the sole use of the Board of Trustees of the City of Ladue Firemen and Policemen's Pension Plan and the City of Ladue as the contributing plan sponsor.

### **PURPOSES OF THE VALUATION**

The actuarial valuation of the Plan is intended to accomplish several purposes:

- The determination of the recommended level of employer contributions for the 2013 calendar year
- Provide information required under applicable governmental accounting standards
- Assessment of the relative funded position of the plan on an ongoing basis, i.e., through a comparison of plan assets and projected plan liabilities

**The City of Ladue Firemen and  
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**Actuarial Certification**

As requested, we have performed an actuarial valuation of the City of Ladue Firemen and Policemen's Pension Plan as of January 1, 2013 for determining contributions for the calendar year ending December 31, 2013. Our findings are set forth in this actuary's report. This report reflects the benefit provisions in effect on January 1, 2013.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the City and The Commerce Trust Company. This information includes, but is not limited to, plan provisions, employee data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the Plan have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the Plan and reasonable expectations).

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; 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 our assignment, we did not perform an analysis of the potential range of future measurements. The City has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in this report.

Actuarial computations presented in this report are for purposes of determining the recommended funding amounts for the City. Actuarial computations presented in this report under GASB Statements No. 25 and 27 are for purposes of fulfilling financial accounting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the City's funding requirements and goals as well as our understanding of the plan provisions described on pages 18-20 of this report, and of GASB Statements No. 25 and 27. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

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- (a) The City may provide a copy of Milliman's work, in its entirety, to the Plan's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the Plan.
- (b) The City may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law.

No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are pension actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

We respectfully submit the following report, and we look forward to discussing it with you.

Sincerely,



Michael J. Zwiener, FSA  
Consulting Actuary  
Joint Board Enrollment #11-03686



William D. Winningham, EA  
Actuary  
Joint Board Enrollment #11-06367

MJZ/WDW/mjk

**The City of Ladue Firemen and  
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**January 1, 2013 Actuarial Valuation**

**Discussion of Valuation Results**

**1. Contribution Recommendation**

The results of this valuation are used to determine recommended contribution rates to the Plan for the 2013 calendar year. A comparison of recommended contribution rates for the current and immediately preceding valuations is shown below:

	<u>Actuarial Valuation as of</u>	
	<u>January 1, 2012</u>	<u>January 1, 2013</u>
Applies to Calendar Year	01/01/12-12/31/12	01/01/13-12/31/13
Recommended Contribution (end of year)	\$1,182,728	\$1,616,761
Actual Contribution	1,182,728	N/A

The recommended contribution increased by approximately \$434,000 from the prior year primarily due to changes in the actuarial assumptions and methods described in item 3 below and the return on the actuarial value assets for 2012 being lower than the 2012 assumed rate of 7.5%, as discussed in item 2 below.

**2. Plan Assets**

The unaudited market value of plan assets increased from \$21,460,433 at January 1, 2012 to \$23,241,352 at January 1, 2013. A balance sheet and statement of income and disbursements are presented on pages 7 and 8, respectively. The net market rate of return was 11.3% for the period.

The actuarial value of assets increased from \$22,949,675 at January 1, 2012 to \$23,012,239 at January 1, 2013. The development of the January 1, 2013 actuarial value of assets is presented on page 9. The net actuarial rate of return for the period was 3.0% vs. the assumed rate of 7.5%.

Due to the asset smoothing method used, there are \$229,113 of investment gains that have not yet been recognized in the Actuarial Value of Assets (see page 9).

**3. Actuarial Assumptions, Methods and Plan Provisions**

Effective January 1, 2013, the Plan adopted the following actuarial assumption and method changes:

1. The investment return assumption was changed from 7.5% to 7.0%.
2. The salary increase assumption was changed from 4.75% to 4.5%.

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3. The amortization of Unfunded Accrued Liability was changed from a level percent of payroll to a level dollar amortization.

Effective December 17, 2012 the Plan was amended to exclude unused sick pay and vacation pay cashouts from the definition of Salary for benefit calculation purposes. The benefit formula for employees hired on or after January 1, 2013 was lowered to 60% of Final Average Salary. The Plan was also amended to increase the Employee contribution percentage from 3.0% to 4.5% of salary in 2013 and 6.0% of salary in 2014 and thereafter.

All other actuarial assumptions, methods and plan provisions remained the same as the prior year. Descriptions of these can be found on pages 15-21.

4. **Plan Population**

The number of active members included in the valuation decreased from 57 in the previous valuation to 52 in the current valuation. The number of members in pay status increased from 56 to 61. The number of deferred vested members increased from 3 to 4. A detailed reconciliation can be found on page 24.

5. **Funded Status**

Methods of measuring a Plan's funded status are prescribed in paragraph 37 of Statement 25 of the Governmental Accounting Standards Board.

The GASB rules provide a couple of bases for assessing the funded status of the plan on an ongoing basis (see page 12 for detailed calculations). One basis is to divide the actuarial value of assets by the Accrued Liability. Page 12 shows this ratio to be 64.2% for the current year. An upward trend in this ratio over the years is considered a favorable indicator of the plan's funding progress.

Another measure displayed on page 12 is the Unfunded Accrued Liability as a percentage of covered payroll. A downward trend in this ratio over time is considered favorable.

The primary reason for the decrease in funded ratio from the preceding year was the reduction in the assumed discount rate from 7.5% to 7.0%.

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**January 1, 2013 Actuarial Valuation**

**Summary of Valuation Results**

	<u>Valuation Date</u> <u>January 1, 2012</u>	<u>Valuation Date</u> <u>January 1, 2013</u>
Number of Members:		
Active	57	52
Receiving Payments	56	61
Terminated Vested	0	4
Terminated Nonvested Due Refund	<u>0</u>	<u>1</u>
Total	116	118
Annual Payroll of Members under Normal Retirement Age	4,107,358	3,939,359
Market Value of Assets	21,460,433	23,241,352
Actuarial Value of Assets	22,949,675	23,012,239
Present Value of Future Benefits	38,199,305	42,158,150
Entry Age Normal Accrued Liability	32,858,994	35,826,301
Unfunded Entry Age Normal Accrued Liability	9,909,319	12,814,062
Entry Age Normal Cost	496,649	558,317
Expected Employee Contributions (reflects first 3% of contributions only)	125,561	121,338
Assumed Expenses	25,000	25,000
Recommended Contribution, with Interest	1,182,728	1,616,761
Recommended Contribution as a Percentage of Covered Payroll	28.80%	41.04%

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**The City of Ladue Firemen and  
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**January 1, 2013 Actuarial Valuation**

**Statement of Assets as of January 1, 2013**

<u>Assets</u>	<u>Market Value</u>
1. Cash and Equivalents	\$586,380
2. Fixed Income Investments	7,931,561
3. Corporate Stocks - Domestic	9,779,490
4. Corporate Stocks - International	2,882,442
5. Alternative Investments	2,036,492
6. Accounts Receivable	24,987
Total Assets	23,241,352
<u>Liabilities</u>	
None	
Net Assets	<u>\$23,241,352</u>

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**The City of Ladue Firemen and  
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**January 1, 2013 Actuarial Valuation**

**Statement of Income and Disbursements**

1.	Market Value of Assets as of January 1, 2012	\$21,460,433
2.	Income:	
	a. City Contributions	1,182,728
	b. Employee Contributions	140,633
	c. Investment Income (Including Realized and Unrealized Capital Gains/Losses)	1,875,567
	d. Interest and Dividends	<u>583,390</u>
	e. Total Income	3,782,318
3.	Expenses	
	a. Employee Benefit Distributions	1,922,822
	b. Investment Expenses	62,438
	c. Administrative Expenses	<u>16,139</u>
	d. Total Expenses	2,001,399
4.	Net Increase (Decrease) = (2e) - (3d)	1,780,919
5.	Market Value of Assets as of December 31, 2012 = (1) + (4)	\$23,241,352
6.	Rate of Return	11.3%

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**The City of Ladue Firemen and  
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**January 1, 2013 Actuarial Valuation**

**Development of Actuarial Value of Assets**

1. Actuarial Value of Assets as of January 1, 2012	\$22,949,675
2. Contributions	1,323,361
3. Benefit Payments	(1,922,822)
4. Expenses	(16,139)
5. Expected Return at 7.5%	1,698,141
6. Expected Actuarial Value of Assets as of December 31, 2012 = (1) + (2) + (3) + (4) + (5)	24,032,216
7. Market Value of Assets as of December 31, 2012	23,241,352
8. Adjustments on Market Value (See Schedule of Market Value Adjustments below)	(1,019,977)
9. Actuarial Value of Assets as of December 31, 2012 = (6) + (8), but not less than 80% x (7), nor more than 120% x (7)	23,012,239

**Schedule of Market Value Adjustments**

<u>Year</u>	Gain/(Loss) <u>Base</u>	Unrecognized Balance <u>1/1/2012</u>	12/31/2012 <u>Adjustment</u>	Unrecognized Balance <u>1/1/2013</u>
2008	(\$6,902,632)	(\$1,380,528)	(\$1,380,528)	\$0
2009	2,003,570	801,428	400,714	400,714
2010	953,931	572,359	190,786	381,573
2011	(1,853,126)	(1,482,501)	(370,625)	(1,111,876)
2012	<u>698,378</u>	<u>N/A</u>	<u>139,676</u>	<u>558,702</u>
Total	N/A	(\$1,489,242)	(\$1,019,977)	\$229,113

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**Actuarial Balance Sheet**

The key elements of the actuarial funding process are illustrated in the Actuarial Balance Sheet. The format of the balance sheet captures the essential purpose of an actuarial cost method - the determination of assets sufficient to provide for pension benefits.

The Actuarial Present Value of Current and Prospective Plan Benefits is the liability that must be balanced by Current and Prospective assets. The Present Value of Future Normal Cost Contributions represents the prospective assets from contributions that will be made for costs allocated to the future.

January 1, 2013

**Liabilities**

1. Actuarial Present Value of Future Benefits	
a. Active Members	\$16,491,906
b. Terminated Vested Members	1,049,110
c. Retired Members	20,697,826
d. Beneficiaries	660,779
e. Disabled Members	<u>3,258,529</u>
f. Total	42,158,150

**Assets**

1. Current Valuation Assets	
a. Actuarial Value of Assets	23,012,239
2. Prospective Valuation Assets	
a. Unfunded Actuarial Accrued Liability	12,814,062
b. Present Value of Future Normal Cost Contributions	<u>6,331,849</u>
3. Total	42,158,150

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**The City of Ladue Firemen and  
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**Development of Recommended Contribution**

	<u>January 1, 2013</u>
1. Entry Age Accrued Liability	
a. Active Members	\$10,160,057
b. Terminated Vested Members	1,049,110
c. Retired Members	20,697,826
d. Beneficiaries	660,779
e. Disabled Members	<u>3,258,529</u>
f. Total	35,826,301
2. Actuarial Value of Assets	23,012,239
3. Funded Ratio: (2) / (1f)	64.2%
4. Entry Age Unfunded Accrued Liability: (1f) - (2)	12,814,062
5. Entry Age Normal Cost	558,317
6. Expected Employee Contributions:*	121,338
7. Assumed Expenses at Beginning of Year (\$25,000 at mid year)	24,168
8. Normal Cost Including Expenses: (5) - (6) + (7)	461,147
9. Covered Payroll	3,939,359
10. Amortization of Unfunded Actuarial Accrued Liability	1,130,427
11. Recommended Contribution at Beginning of Year: (8) + (10)	1,591,574
12. Recommended Contribution, with Interest to Expected Payment Date	1,616,761
13. Recommended Contribution as a Percentage of Payroll	41.0%

*\*Reflects first 3% of employee contributions*

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**GASB 25 and 27 Disclosure Information**

Schedule of Funding Progress

<u>Date of Valuation</u>	<u>Actuarial Asset Value</u>	<u>Entry Age Normal Accrued Liability</u>	<u>Unfunded Accrued Liability (UAL)</u>	<u>Funded Ratio</u>	<u>Covered Payroll</u>	<u>UAL as a Percentage of Covered Payroll</u>
1/1/2002	\$17,007,931	\$19,295,567	\$2,287,636	88.1%	\$3,428,896	66.7%
1/1/2003	15,204,281	21,411,392	6,207,111	71.0%	3,586,895	173.0%
1/1/2004	17,194,086	23,255,866	6,061,780	73.9%	3,581,760	169.2%
1/1/2005	17,267,814	24,530,293	7,262,479	70.4%	3,651,659	198.9%
1/1/2006	17,426,067	25,861,569	8,435,502	67.4%	3,782,856	223.0%
1/1/2007	18,106,583	27,471,232	9,364,649	65.9%	4,102,912	228.2%
1/1/2008	19,999,879	28,526,368	8,526,489	70.1%	4,245,175	200.9%
1/1/2009	18,266,006	29,214,709	10,948,703	62.5%	4,469,088	245.0%
1/1/2010	22,092,661	30,728,346	8,635,685	71.9%	4,447,537	194.2%
1/1/2011	23,071,952	31,598,942	8,526,990	73.0%	4,246,707	200.8%
1/1/2012	22,949,675	32,858,994	9,909,319	69.8%	4,107,358	241.3%
1/1/2013	23,012,239	35,826,301	12,814,062	64.2%	3,939,359	325.3%

<u>Date of Valuation</u>	<u>Market Asset Value*</u>	<u>Entry Age Normal Accrued Liability</u>	<u>Unfunded Accrued Liability (UAL)</u>	<u>Funded Ratio</u>	<u>Covered Payroll</u>	<u>UAL as a Percentage of Covered Payroll</u>
1/1/2008	19,843,121	28,526,368	8,683,247	69.6%	4,245,175	204.5%
1/1/2009	15,221,672	29,214,709	13,993,037	52.1%	4,469,088	313.1%
1/1/2010	19,545,180	30,728,346	11,183,166	63.6%	4,447,537	251.4%
1/1/2011	22,218,930	31,598,942	9,380,012	70.3%	4,246,707	220.9%
1/1/2012	21,460,433	32,858,994	11,398,561	65.3%	4,107,358	277.5%
1/1/2013	23,241,352	35,826,301	12,584,949	64.9%	3,939,359	319.5%

*\*Schedule of funding progress based on Market Value of Assets is not required by GASB and is provided for informational purposes only.*

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**GASB 25 and 27 Disclosure Information**

Schedule of Employer Contributions and Development of Net Pension Obligation

Fiscal Year <u>Ending</u> (1)	Annual Required Contribution (ARC) (2)	Interest on NPO (3)	ARC Adjustment (4)	Annual Pension Cost (5)=(2)+(3)-(4)	Actual Employer Contributions (6)	Change in NPO (7)	NPO Balance (8)
12/31/2002	567,169		---	567,169	567,169	-	0
12/31/2003	910,979	-	---	910,979	910,979	---	0
12/31/2004	906,696	-	---	906,696	906,696	---	0
12/31/2005	983,068	-	---	983,068	983,068	---	0
12/31/2006	1,129,573	-	---	1,129,573	1,129,573	---	0
12/31/2007	1,210,076	-	---	1,210,076	1,810,076	(600,000)	(600,000)
12/31/2008	1,055,357	(46,500)	(46,573)	1,055,430	2,240,000	(1,184,570)	(1,784,570)
12/31/2009	1,255,382	(138,304)	(138,521)	1,255,599	2,255,382	(999,783)	(2,784,353)
12/31/2010	1,092,786	(215,787)	(216,126)	1,093,125	1,692,786	(599,661)	(3,384,014)
12/31/2011	1,100,673	(253,801)	(257,204)	1,104,076	1,100,673	3,403	(3,380,611)
12/31/2012	1,182,728	(253,546)	(256,945)	1,186,127	1,182,728	3,399	(3,377,212)
12/31/2013	1,616,761	(236,405)	(302,645)	1,683,001	N/A	N/A	N/A

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**GASB Disclosure Supplemental Information**

The complete descriptions of the actuarial methods and assumptions are provided in the Actuarial Assumptions and Methods section of the valuation report.

Valuation Date:	January 1, 2013
Actuarial Cost Method:	Entry Age Normal
Amortization Method:	Level dollar amortization of changes in Unfunded Actuarial Accrued Liability on a closed basis
Amortization Period:	20 years
Asset Valuation Method:	The actuarial value of assets is equal to the prior year's actuarial value of assets adjusted as follows:

1. increased with actual contributions for the year;
2. reduced by actual benefit payments and expenses for the year;
3. increased by expected investment income calculated using the assumed rate of return
4. increased by phased in investment gains/(losses)
5. limited to no less than 80% of market value and no more than 120% of market value

Each year, the amount of investment gain/(loss) to be phased in is equal to the excess of the plan's market value over the sum of the expected asset value and the unrecognized balances of investment

**Actuarial Assumptions:**

Investment Rate of Return:	7.0% annual returns
Expenses Paid from Plan Assets:	\$25,000 per year
Salary Growth Rate:	4.50%
Inflation:	2.50%

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**Actuarial Assumptions and Methods**

**Interest (adopted 01/01/2013)**

7.0% per annum, compounded annually

**Salary Increases (adopted 01/01/2013)**

4.5% per annum, compounded annually

**Inflation (adopted 01/01/2013)**

2.5% per annum

**Mortality**

Healthy Lives: RP-2000 Combined White Collar Mortality Table, male and female rates, projected to 2017 by Scale AA. Active death is assumed to be 50% duty related.

Disabled Lives: Post-1994 Disability Mortality Table as prescribed by IRS Revenue Ruling 96-7, male and female rates.

**Withdrawal**

Rates vary by age. Rates at selected ages are:

<u>Age</u>	<u>Percent Withdrawing</u>
20	10.0%
25	8.0
30	5.5
35	3.4
40	1.4
45	0.2
50	0.0

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**Actuarial Assumptions and Methods**

**Retirement**

Rates vary by age as follows:

<u>Age</u>	<u>Percent Retiring</u>
55	25%
56-58	20
59	50
60	100

Terminated vested participants are assumed to retire at age 55.

**Disability**

1985 Pension Disability Table – Class 3. Disabilities are assumed to be 75% duty related.  
Rates at selected ages are:

<u>Age</u>	<u>Percent Becoming Disabled</u>
20	0.14%
25	0.20
30	0.30
35	0.42
40	0.59
45	0.82
50	1.22
55	2.09
60	3.10

**Administrative Expenses**

\$25,000 per year

**Marriage**

80% of members are assumed to be married at the time of withdrawal, retirement, death or disability. Males are assumed to be 4 years older than their spouses.

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**Actuarial Assumptions and Methods**

**Children of Active Employees**

Active members are assumed to have one child. Each child is assumed to be born at a member's age 28.

**Form of Payment**

All members are assumed to elect the Life Annuity with a 50% postretirement death benefit payable to a spouse and eligible children, with the exception that those who terminate prior to retirement are assumed to elect a return of contributions.

**Actuarial Cost Method (adopted 01/01/2013)**

The Entry Age Normal Cost Method on a closed group basis was used. Normal costs are computed as a level percent of pay. The Entry Age Normal Unfunded Accrued Liability (UAL) is amortized on a level dollar basis over a closed 20 year period with future changes in UAL resulting in separate 20-year amortization bases.

**Asset Valuation Method**

An asset valuation method is used to help smooth short term fluctuations in market value. The actuarial value of assets is equal to the prior year's actuarial value of assets adjusted as follows:

1. increased with actual contributions for the year;
2. reduced by actual benefit payments and expenses for the year;
3. increased by expected investment income calculated using the assumed rate of return
4. increased by phased in investment gains/(losses)
5. limited to no less than 80% of market value and no more than 120% of market value

Each year, the amount of investment gain/(loss) to be phased in is equal to the excess of the plan's market value over the sum of the expected asset value and the unrecognized balances of investment gains/(losses) for the previous five years. 20% of this amount plus 20% of the similar amounts calculated in each of the four preceding years are summed and recognized as the amount of phased-in gains recognized in the current year

**The City of Ladue Firemen and  
Policemen's Pension Plan**

**January 1, 2013 Actuarial Valuation**

**Summary of Plan Provisions**

A summary of the current primary provisions of the Plan is presented below. A complete description of the provisions can be found in Ordinance 1932, as amended by Ordinances 2032 and 2056.

**Effective Date**

Originally effective May 1, 1947; most recently restated effective November 19, 2007 and most recently amended December 17, 2012.

**Eligibility**

Any salaried uniformed employee of the Fire Department or Police Department of the City of Ladue becomes eligible after his first hour of employment.

**Employee Contributions**

Each Employee shall contribute 4.5% of salary to the Pension Fund in 2013, and 6.0% of salary in 2014 and thereafter. Contributions accumulate at an interest rate of 4% as established by the Board of Trustees.

**Salary**

Calendar year compensation paid to an employee by the City of Ladue, including LTD premiums, temporary disability payments, and employee contributions to an eligible deferred compensation plan, cafeteria plan, or transportation expense program.

**Final Average Salary (FAS)**

Average monthly salary during the last 60 months of employment, or average monthly salary during an employee's entire employment if employed less than 60 months. The FAS for a disabled participant is determined as of the Date of Disability.

**Career Average Salary (CAS)**

Average monthly salary during an employee's entire employment. The CAS for a disabled participant is determined as of the Date of Disability.

**The City of Ladue Firemen and  
Policemen's Pension Plan**

**January 1, 2013 Actuarial Valuation**

**Summary of Plan Provisions**

**Years of Service**

Sum of continuous periods of service from date of hire to date of termination, including periods on LTD, Family and Medical Leave, and absences without pay lasting less than 31 consecutive days. Does not include partial years of service.

**Normal Retirement**

Eligibility: Age 55 with 10 Years of Service.

Benefit: Employees hired prior to January 1, 2013:

Less than 20 Years of Service: 2% of CAS multiplied by Years of Service.

At least 20 Years of Service: 40% of FAS + 2.5% of FAS multiplied by Years of Service in excess of 20 up to a maximum of 10.

Employees hired on or after January 1, 2013:

Less than 30 Years of Service: 2% of CAS multiplied by Years of Service.

At least 30 Years of Service: 60% of FAS.

**Disability Benefit**

Eligibility: 10 Years of Service including period of Disability.

Benefit: Disability Benefits are paid outside the Plan by the City's Long-Term Disability Plan for disabilities that occur after January 1, 2008. Upon attaining Early or Normal Retirement eligibility, a disabled member is entitled to the Early or Normal Retirement Benefit based on FAS at Date of Disability and Credited Service including the period while on LTD.

**Early Retirement**

Eligibility: Age 50 with 10 Years of Service.

Benefit: Accrued Benefit based on FAS or CAS and Years of Service at retirement actuarially reduced for early commencement.

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**The City of Ladue Firemen and  
Policemen's Pension Plan**

**January 1, 2013 Actuarial Valuation**

**Summary of Plan Provisions**

**Vested Termination Benefit**

Less than 10 Years of Service: Refund of contributions with interest.

At least 10 Years of Service: Either refund of contributions with interest or the participant's Accrued Benefit based on FAS or CAS and Credited Service at termination actuarially adjusted for date of retirement.

**Deferred Retirement**

A member may defer his pension after age 55 upon discretion of the City Council.

**Death Benefit**

Active Duty: 50% of FAS plus 10% of FAS for each Dependent Child to a maximum of three.

Active Non-Duty: 5% of FAS multiplied by Years of Service up to a maximum of 24% of FAS plus 2% of FAS multiplied by Years of Service up to a maximum of 10% of FAS for each Dependent Child to a maximum of three.

Duty Disability (Disabled prior to January 1, 2008): 40% of FAS plus 10% of FAS for each Dependent Child to a maximum of three.

Non-Duty Disability (Disabled prior to January 1, 2008): Two thirds of the benefit the disabled retiree was receiving plus one third of the benefit the disabled retiree was receiving for each Dependent Child to a maximum of three.

**Cost-of-Living Adjustment (COLA)**

Benefits commencing on or after April 17, 1972 are adjusted each January 1 for an annual COLA based on the Consumer Price Index on September 30 prior to the adjustment date. COLAs are limited to a maximum annual increase of 2% and a lifetime maximum of 20%. If the CPI is less than 1% during a year, there shall be no adjustment, and if the CPI is negative, there shall be no adjustment unless the decrease is 2% or more. Retirees and disabled members (who became disabled prior to January 1, 2008) first become eligible for the COLA on the second January 1<sup>st</sup> following retirement.

**The City of Ladue Firemen and  
Policemen's Pension Plan**

**January 1, 2013 Actuarial Valuation**

**Summary of Plan Provisions**

**Normal Form of Payment**

Life Annuity with a 50% post retirement death benefit payable to a spouse (who has attained age 50) and eligible children (single and below age 18).

**The City of Ladue Firemen and  
Policemen's Pension Plan**

**January 1, 2013 Actuarial Valuation**

**Summary of Member Data**

	<u>January 1, 2012</u>	<u>January 1, 2013</u>
1. Active Members		
a. Count	57	52
b. Plan Compensation	4,281,822	3,939,359
c. Average Compensation	75,120	75,757
d. Average Age	40.9	38.8
e. Average Service	13.1	11.2
2. Retired Members (Including Beneficiaries and Disableds)		
a. Count*	56	61
b. Total Monthly Benefits	\$159,382	\$187,132
c. Average Monthly Benefits	\$2,846	\$3,068
3. Terminated Vested Members		
a. Count	3	4
b. Total Monthly Benefits	\$7,068	\$10,413
c. Average Monthly Benefits	\$2,356	\$2,603
4. Terminated Nonvested Due Refund of Contributions		
a. Count	0	1
b. Employee Contributions	\$0	\$330

*\*Includes 2 Children and 2 Alternate Payees*

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**The City of Ladue Firemen and  
Policemen's Pension Plan**

**January 1, 2013 Actuarial Valuation**

**Distribution of Active Members by Age and by Years of Service**  
(as of January 1, 2013)

Attained Age	YEARS OF CREDITED SERVICE										Total	
	Under 1 No.	1 to 4 No.	5 to 9 No.	10 to 14 No.	15 to 19 No.	20 to 24 No.	25 to 29 No.	30 to 34 No.	35 to 39 No.	40 and up No.		
Under 25	0	2	0	0	0	0	0	0	0	0	0	2
25 to 29	1	4	0	0	0	0	0	0	0	0	0	5
30 to 34	0	2	6	1	0	0	0	0	0	0	0	9
35 to 39	0	5	5	2	0	0	0	0	0	0	0	12
40 to 44	0	1	3	1	4	0	0	0	0	0	0	9
45 to 49	0	0	0	1	1	4	0	0	0	0	0	6
50 to 54	1	0	0	0	0	1	5	1	0	0	0	8
55 to 59	0	0	0	0	1	0	0	0	0	0	0	1
60 to 64	0	0	0	0	0	0	0	0	0	0	0	0
65 to 69	0	0	0	0	0	0	0	0	0	0	0	0
70 and up	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	14	14	5	6	5	5	1	0	0	0	52

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**The City of Ladue Firemen and  
Policemen's Pension Plan**

**January 1, 2013 Actuarial Valuation**

**Summary of Changes in Member Data**

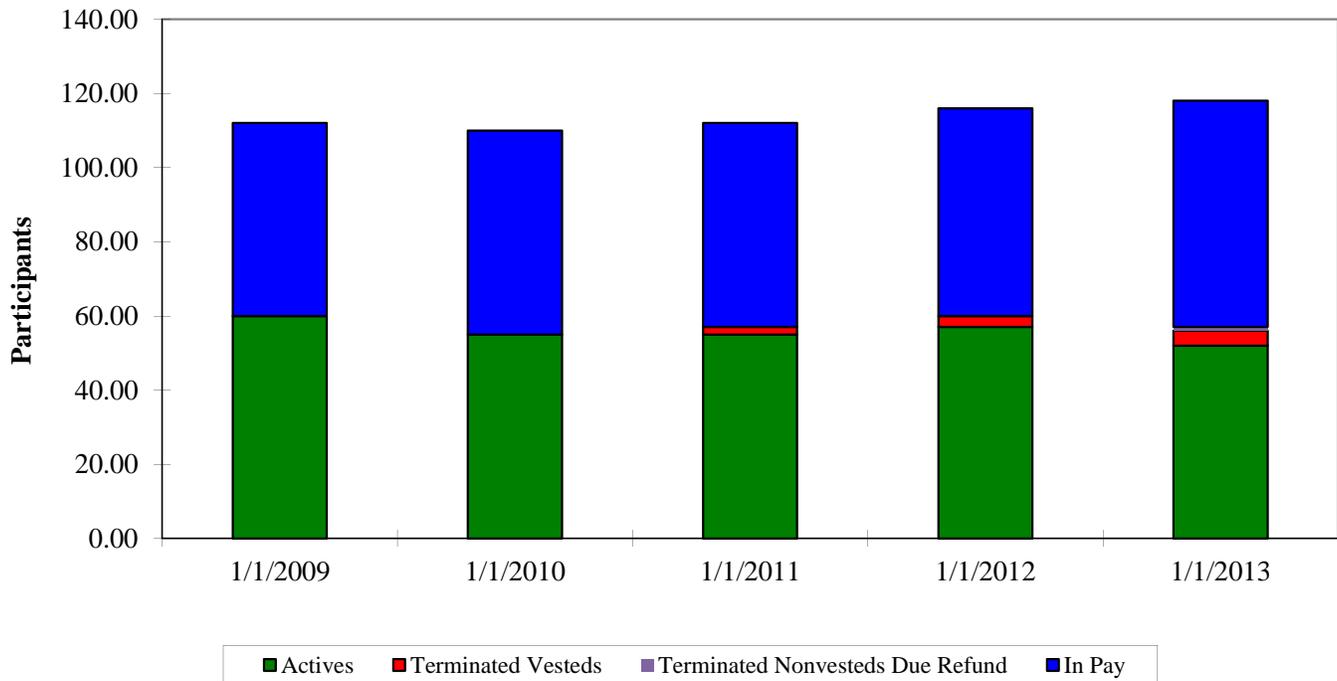
	<u>Active Members</u>	<u>Members in Pay Status</u>	<u>Terminated Nonvested Due Refund</u>	<u>Terminated Vested Members</u>	<u>Total</u>
Count as of January 1, 2012	57	56 *	0	3	116
New Entrants	3	0	0	0	3
Rehired	0	0	0	0	0
Retired	(6)	6	0	0	0
Became Disabled	0	0	0	0	0
Lump Sum Payouts	0	0	0	0	0
Died with Beneficiary	0	(1)	0	0	(1)
New Beneficiaries	0	1	0	0	1
Died without Beneficiary	0	(1)	0	0	(1)
Terminated Nonvested Due Refund	(1)	0	1	0	0
Terminated with Vesting	(1)	0	0	1	0
Data Corrections	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Changes	<u>(5)</u>	<u>5</u>	<u>1</u>	<u>1</u>	<u>2</u>
Count as of January 1, 2013	52	61 *	1	4	118

*\*Includes 2 Children and 2 Alternate Payees*

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## The City of Ladue Firemen and Policemen's Pension Plan

### Member Data

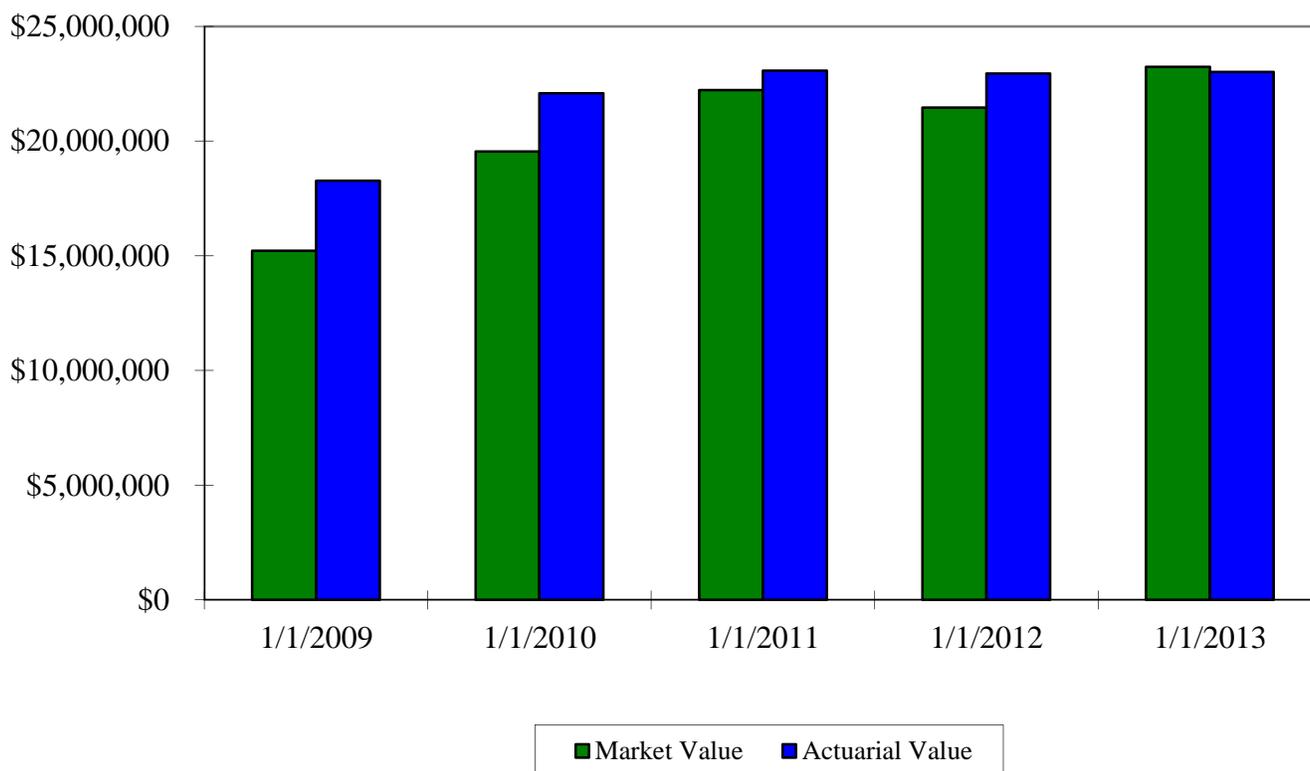


Valuation Date	1/1/2009	1/1/2010	1/1/2011	1/1/2012	1/1/2013
Actives	60	55	55	57	52
Terminated Vested	0	0	2	3	4
Terminated Nonvested Due Refund	0	0	0	0	1
In Pay	52	55	55	56	61
<b>Total</b>	<b>112</b>	<b>110</b>	<b>112</b>	<b>116</b>	<b>118</b>

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## The City of Ladue Firemen and Policemen's Pension Plan

### Total Assets

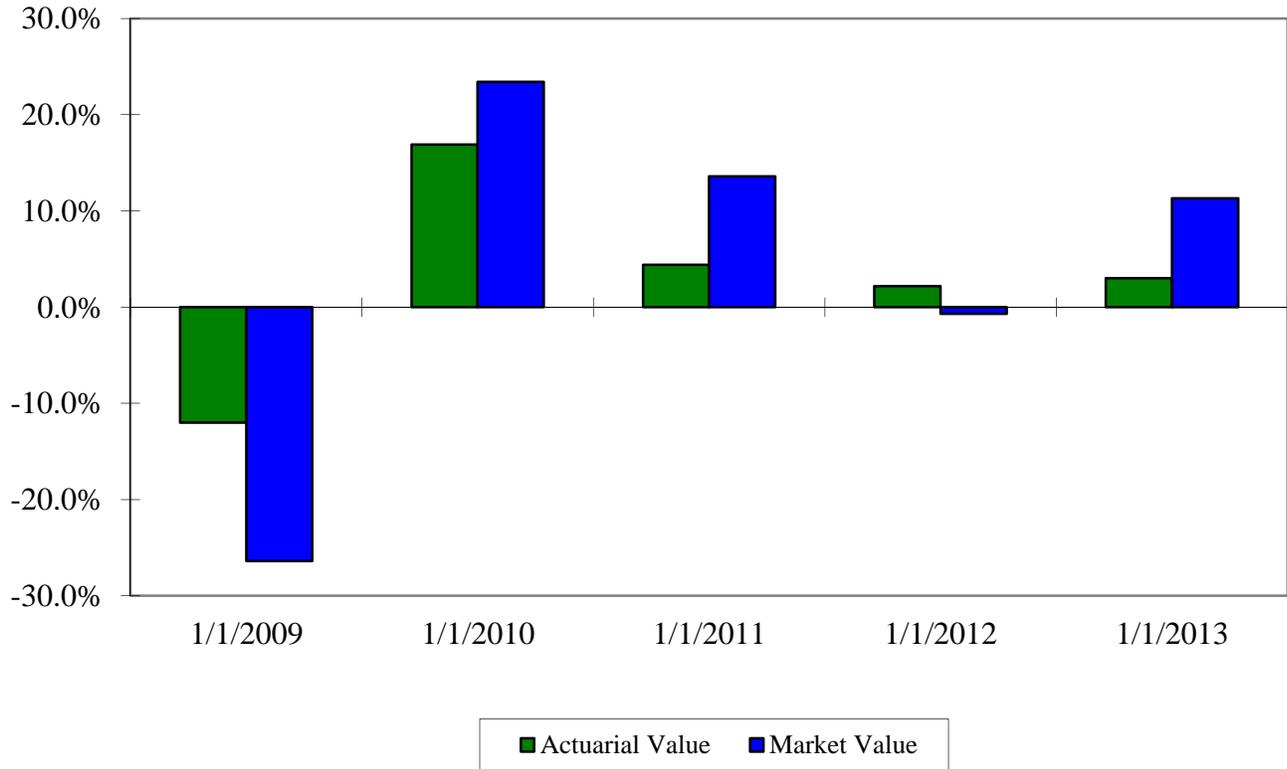


<b>Valuation Date</b>	<b>Market Value</b>	<b>Actuarial Value</b>
1/1/2009	\$15,221,672	\$18,266,006
1/1/2010	\$19,545,180	\$22,092,661
1/1/2011	\$22,218,930	\$23,071,952
1/1/2012	\$21,460,433	\$22,949,675
1/1/2013	\$23,241,352	\$23,012,239

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## The City of Ladue Firemen and Policemen's Pension Plan

### Rate of Return (%) on Total Assets

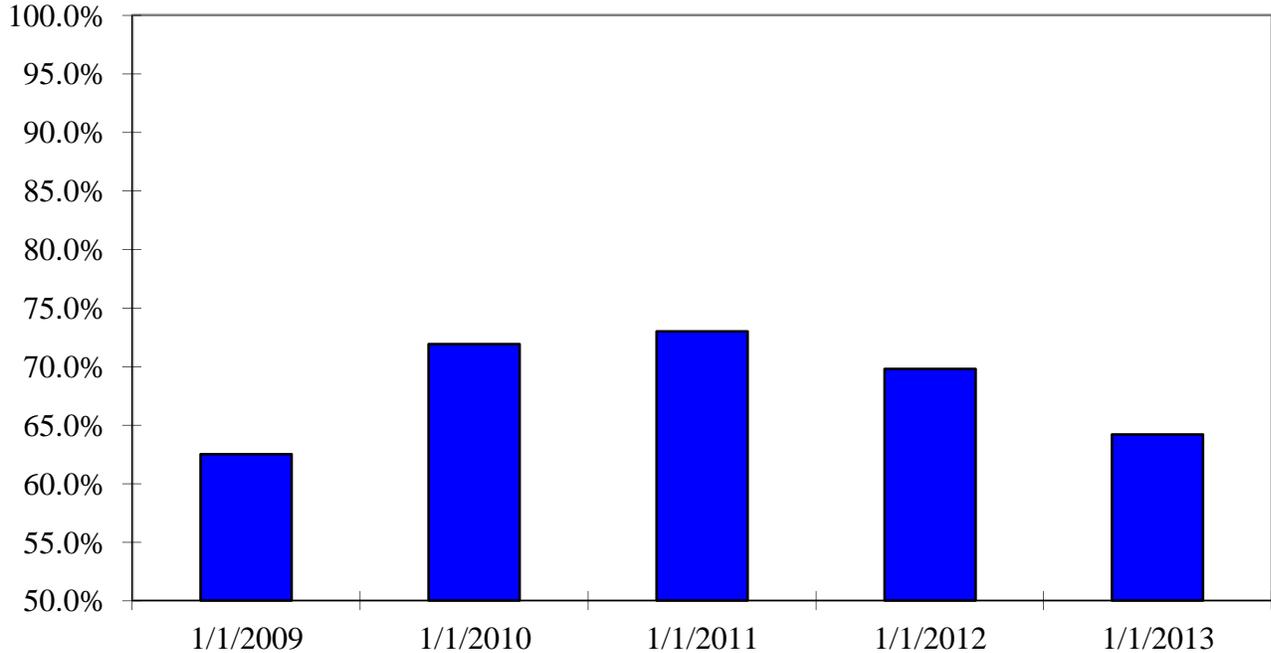


<b>Valuation Date</b>	<b>Actuarial Value</b>	<b>Market Value</b>
1/1/2009	-12.0%	-26.4%
1/1/2010	16.9%	23.4%
1/1/2011	4.4%	13.6%
1/1/2012	2.2%	-0.7%
1/1/2013	3.0%	11.3%

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**The City of Ladue Firemen and  
Policemen's Pension Plan**

**Funded Ratio: Actuarial Value of Assets (AVA)  
vs. Actuarial Accrued Liability (AAL)**

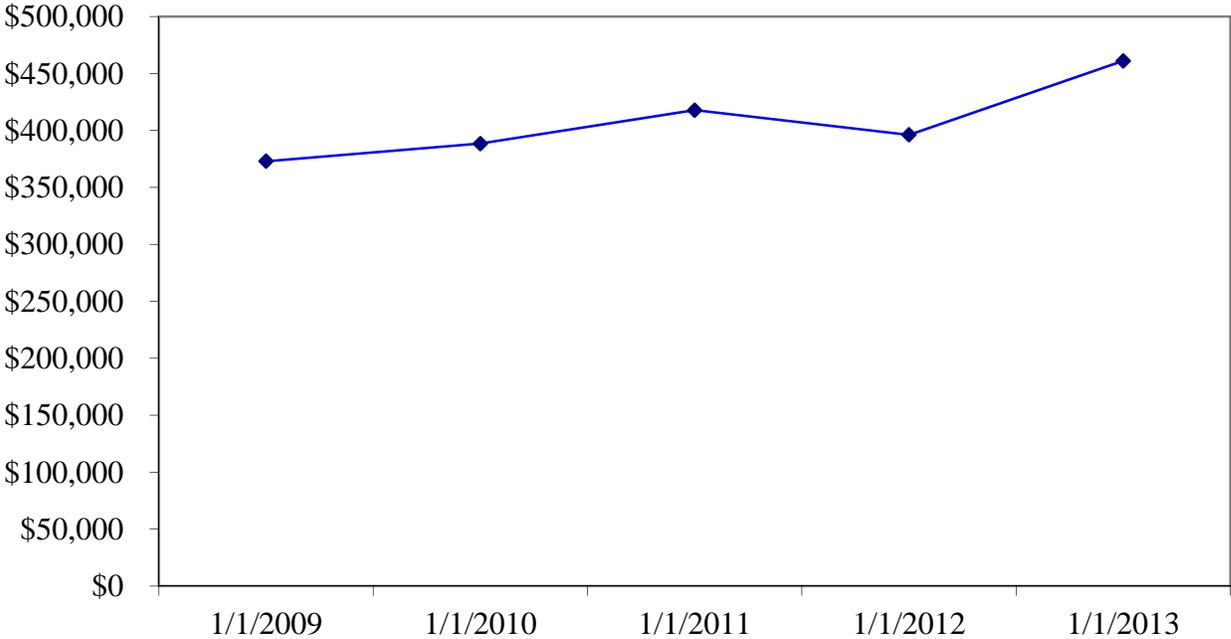


<b>Valuation Date</b>	<b>AVA/AAL</b>
1/1/2009	62.5%
1/1/2010	71.9%
1/1/2011	73.0%
1/1/2012	69.8%
1/1/2013	64.2%

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**The City of Ladue Firemen and  
Policemen's Pension Plan**

**Normal Cost**



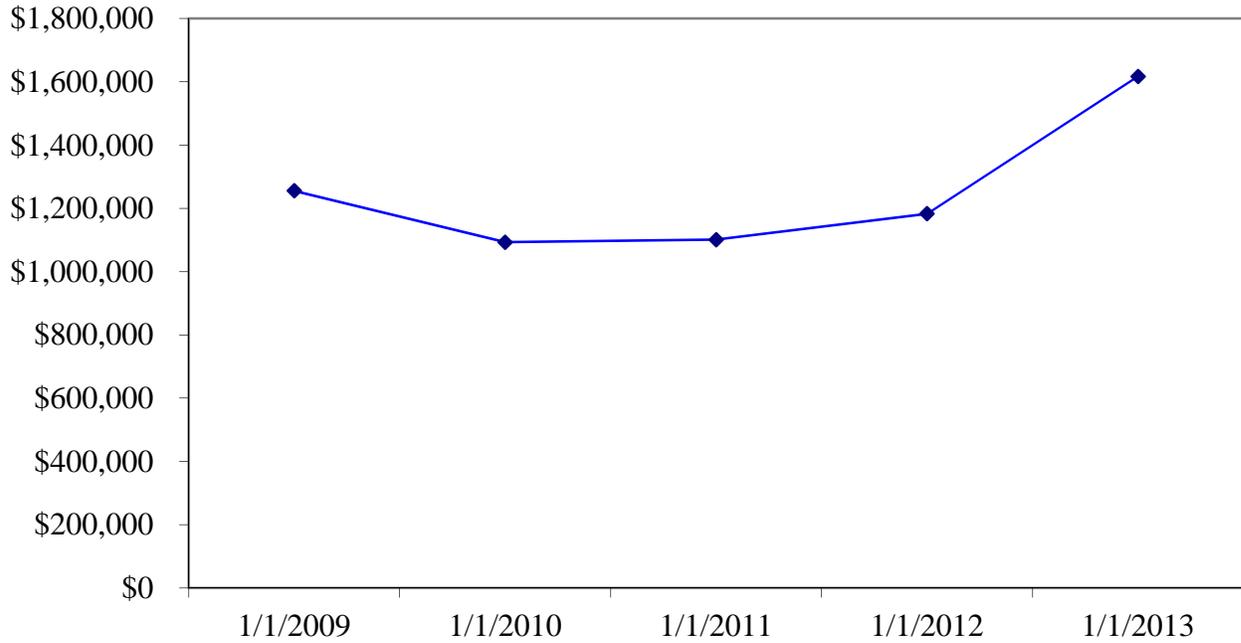
<b>Valuation Date</b>	<b>Normal Cost</b>
1/1/2009	\$372,911
1/1/2010	\$388,486
1/1/2011	\$417,849
1/1/2012	\$396,088
1/1/2013	\$461,147

Includes \$25,000 load for expenses

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## The City of Ladue Firemen and Policemen's Pension Plan

### Annual Recommended Contribution (ARC)



<b>Valuation Date</b>	<b>ARC</b>
1/1/2009	\$1,255,382
1/1/2010	\$1,092,786
1/1/2011	\$1,100,673
1/1/2012	\$1,182,728
1/1/2013	\$1,616,761

Includes \$25,000 load for expenses

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