

ACTUARIAL REPORT





**DALLAS POLICE AND FIRE PENSION SYSTEM
ACTUARIAL VALUATION
AS OF JANUARY 1, 2013**

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May 7, 2013

Mr. Richard L. Tettamant
Administrator
Dallas Police & Fire Pension System
4100 Harry Hines Blvd., Suite 100
Dallas, TX 75219

Re: Dallas Police and Fire Pension System Actuarial Valuation as of January 1, 2013

Dear Mr. Tettamant:

We certify that the information contained in this report is accurate and fairly presents the actuarial position of the Dallas Police and Fire Pension System (the System) as of January 1, 2013.

Actuarial Valuation

The primary purpose of the valuation report is to determine the adequacy of the current City's contribution rate, to describe the current financial condition of the System, and to analyze changes in the System's condition. In addition, the report provides information required by the City of Dallas in connection with Governmental Accounting Standards Board Statements Number 25 and Number 27.

Basis for Funding

The member and City contribution rates are established by statute. The City's and the members' contributions are intended to be sufficient to pay the normal cost and to amortize the System's unfunded actuarial accrued liability.

Funding Progress

As of January 1, 2013, the employer contribution rate for GASB 27 purposes to pay the normal cost and fund the Unfunded Actuarial Accrued Liability over 30 years is 28.35%. This amount is less than the 33.06% employer contribution rate calculated as of January 1, 2012.

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The funding period has been calculated in accordance with the Texas Pension Review Board (Texas PRB) Guidelines for Actuarial Soundness, which allow funding the Unfunded Actuarial Accrued Liability (UAAL) as a level percentage of payroll. In calculating the funding period, we have determined the level percentage of pay available to fund the UAAL as the excess of the fixed contribution rates over the normal cost rate. In order for this excess to be level, the normal cost rate must be level and, as such, has been determined using the entry age normal cost rate for the benefits available to members hired after February 28, 2011. Based on this method, the current contribution rate covers the normal cost and the amortization of the UAAL over 23 years.

Benefit Provisions

The actuarial valuation reflects the benefit and contribution provisions set forth in the System's statutes. There are no significant benefits which were not taken into account in this valuation. The valuation is based on the same benefit provisions as the previous valuation.

Assumptions and Methods

The actuarial assumptions and methods used in the valuation are presented in Schedule C.

The method for determining the Actuarial Value of Assets was changed from one that smooths in gains and losses over five years, to one that smooths them in over ten years. This change was made to better reflect the long-term nature of the System's funding policy.

Otherwise, the valuation is based on the same assumptions and methods adopted by the Board of Trustees as the previous valuation.

The assumptions used are individually reasonable and reasonable in the aggregate.

Data

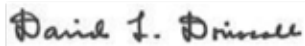
Asset information and member data for retired, active, and inactive members was supplied as of January 1, 2013 by the Administrator. We have not subjected this data to any auditing procedures, but have examined the data for reasonableness and consistency with the prior year's data.

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We are Enrolled Actuaries, Fellows of the Society of Actuaries, and Members of the American Academy of Actuaries. We meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. To the best of our knowledge, this report is complete and accurate and has been prepared in accordance with generally accepted actuarial principles and practice, and we are available to answer questions about it.

Respectfully submitted,



David L. Driscoll, FSA, EA, MAAA
Principal, Consulting Actuary



David Kent, FSA, EA, MAAA
Director, Retirement

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Enclosures

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Dallas Police and Fire Pension System
Actuarial Valuation - January 1, 2013

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Dallas Police and Fire Pension System
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Section 1

Summary of Principal Results

	January 1, 2013	January 1, 2012
Membership		
Active	5,400	5,376
Terminated with refunds due	86	75
Terminated with deferred benefits	96	128
Retired members and beneficiaries	3,783	3,669
Compensation		
Total	\$ 361,043,989	\$ 349,494,994
Average	\$ 66,860	\$ 65,010
Assets		
Market value	\$ 3,206,364,971	\$ 2,990,943,353
Actuarial value	\$ 3,795,024,584	\$ 3,378,481,222
Valuation Results		
Unfunded actuarial accrued liability	\$ 1,063,181,047	\$ 1,190,369,365
Funding period*	23	30
GASB No. 25		
Actuarial accrued liability (AAL)	\$ 4,858,205,631	\$ 4,568,850,587
Assets (actuarial)	\$ 3,795,024,584	\$ 3,378,481,222
GASB ratio	78.1%	73.9%
Unfunded AAL	\$ 1,063,181,047	\$ 1,190,369,365

* The funding period has been calculated in accordance with the Texas PRB Guidelines for Actuarial Soundness, which allow funding the UAAL as a level percentage of payroll. In calculating the funding period, we have determined the level percentage of pay available to fund the UAAL as the excess of the fixed contribution rates over the normal cost rate. In order for this excess to be level, the normal cost rate must be level and, as such, has been determined using the entry age normal cost rate for the benefits available to members hired after February 28, 2011.

Comments on the Valuation

Overview

The current contribution rates are sufficient to fund the System over a finite time period, based on the current membership data, the current financial data, the current benefit provisions and the actuarial assumptions and methods used to determine liabilities and costs.

The overall funding of the Plan remains sound. The funding period decreased to 23 years from 30 years. This decrease was primarily due to the change in the method of determining the Actuarial Value of Assets.

Section 3 shows in more detail the changes to the 30-year funding cost and the funding period based on the current contribution rates.

Funding status

There are two significant measures of the funding status of the System. The first is the 30-year funding cost. This is the City contribution rate required by GASB 27 to pay the normal cost and to amortize the UAAL over a 30-year period. This rate is currently 28.35% of payroll compared with the City's actual contribution rate of 27.50% of payroll and the 30-year funding cost in 2012 of 33.06% of payroll. Section 3 shows a reconciliation of the changes between the 2012 and 2013 figures.

The other measure is the funding period. This is the length of time in years that will be required to amortize the current UAAL based on the current contribution rate. The funding period has been calculated consistent with the Texas PRB Guidelines for Actuarial Soundness, which allow funding the UAAL over a level percentage of payroll. In calculating the funding period, we have determined the level percentage of pay available to fund the UAAL as the excess of the fixed contribution rates over the normal cost rate. In order for this excess to be level, the normal cost rate must be level and, as such, has been determined using the entry age normal cost rate for the benefits available to members hired after February 28, 2011. Based on this method, the current contribution rate covers the normal cost and the amortization of the UAAL over 23 years.

The UAAL is the excess of the liability assigned to prior years (the actuarial accrued liability) over the value of assets. Section 3 shows a reconciliation of this amount between 2012 and 2013.

Dallas Police and Fire Pension System
Actuarial Valuation - January 1, 2013

Section 2
(continued)

GASB Statements

Section 4 provides the information required for reporting under GASB No. 25.

Benefit Provisions

Schedule B summarizes all the benefit provisions of the System. There are no significant benefits which were not taken into account in this valuation. The valuation is based on the same benefit provisions as the previous valuation.

Actuarial Assumptions and Methods

The actuarial assumptions and methods used in the valuation are presented in Schedule C.

The method for determining the Actuarial Value of Assets was changed from one that smooths in gains and losses over five years, to one that smooths them in over ten years. This change was made to better reflect the long-term nature of the System's funding policy.

The assumptions used are individually reasonable and reasonable in the aggregate.

Schedule D compares the assumptions to the recent experience of the System and describes the adequacy of the assumptions.

GASB Statement No. 27

Initially, under GASB Statement No. 27, employers were required to determine a pension expense based on a 40-year amortization of the UAAL for fiscal years beginning after June 15, 1996. After the 10-year transition period, the required amortization period is now 30 years. The amortization can assume payroll growth due to inflation, but no membership growth. If the actual contribution rate is less than the rate required by GASB No. 27, the excess must be expensed. This will result in the employer showing an accrued but unpaid liability for pension benefits on its financial statements.

A City Contribution rate of 28.35% of payroll will be required for the City to avoid showing an additional pension liability on its financial statements for the fiscal year beginning in 2013. At the current rate of contribution, and assuming no other changes, the City will be required to show an accrued but unpaid pension liability for the System on its financial statements in the future.

Financial Data

The financial data used in this report was supplied by the System.

Section 5 reconciles the System's assets between 2012 and 2013 and shows the development of the actuarial value of assets (AVA). Rather than using the market value for cost calculations, an adjusted market value, which phases in gains and losses (compared to the assumed investment return rate) over ten years, is used. The estimated rate of return for 2012 is 9.92% for the market value of assets, and 14.79% for the actuarial value of assets.

Membership Statistics

Data on active members and on retired members was supplied by the Administrator. Active membership and total payroll for active members remained fairly level during the last year. The active membership increased from 5,376 members as of January 1, 2012 to 5,400 members as of January 1, 2013, a 0.4% increase. The total active payroll increased from \$349,494,994 to \$361,043,989 over the same period, a 3.3% increase. Schedule A shows a summary of the membership data.

Experience

Schedule D compares the actual experience of the system with the actuarial expectations.

Actuarial Cost, Margin and Funding Period

	<u>January 1, 2013</u>	<u>January 1, 2012</u>
1. Covered Payroll		
a. Active members excluding DROP	227,581,470	226,996,912
b. DROP members	<u>133,462,519</u>	<u>122,498,082</u>
c. Total	361,043,989	349,494,994
2. Actuarial present value of future pay		
a. Active members excluding DROP	2,800,679,183	1,948,525,200
b. DROP members	<u>590,037,954</u>	<u>1,389,151,600</u>
c. Total	3,390,717,137	3,337,676,800
3. Current contribution rates		
a. City	27.50%	27.50%
b. Member*	<u>8.50%</u>	<u>8.50%</u>
c. Total	36.00%	36.00%
4. Actuarial present value of future benefits	5,603,126,940	5,353,464,083
5. Actuarial present value of future normal costs		
a. Total	744,921,309	784,613,496
b. Member (3b x 2a)*	285,808,555	276,318,997
c. City (5a - 5b)	459,112,754	508,294,499
6. Actuarial accrued liability (4 - 5a)	4,858,205,631	4,568,850,587
7. Actuarial value of assets	3,795,024,584	3,378,481,222
8. Unfunded actuarial accrued liability (UAAL) (6 - 7)	1,063,181,047	1,190,369,365
9. Normal cost		
a. Normal cost percentage (5a ÷ 2c)	21.97%	23.51%
b. Total normal cost (1c x 9a)	79,321,364	82,166,273
c. Member normal cost (1a x 3b)*	28,186,317	23,888,416
d. City normal cost (9b - 9c)	51,135,047	58,277,857
e. City normal rate (9d ÷ [1c x 1.11])	12.76%	15.02%

* Active DROP members contribute 3.0% of pay for pay periods ending on or after October 1, 2011, 6.0% of pay for pay periods ending on or after October 1, 2012, and 8.5% of pay for pay periods ending on or after October 1, 2013. Present value of future member contributions (line 5b) as of January 1, 2012 and January 1, 2013 was increased by \$110,694,355 and \$47,750,824, respectively and member normal cost (line 9c) as of January 1, 2012 and January 1, 2013 was increased by \$4,593,678 and \$8,841,892, respectively to account for these changes.

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Actuarial Cost, Margin and Funding Period

	<u>January 1, 2013</u>	<u>January 1, 2012</u>
10. 30-year funding cost*		
a. City normal cost rate**	12.76%	15.02%
b. Amortization rate	<u>15.59%</u>	<u>18.04%</u>
c. Total	28.35%	33.06%
11. Margin over/(under) 30-year cost* (3a - 10c)	(0.85)%	(5.56)%
12. Funding period to amortize UAAL***	23	30

* 30-year funding cost is necessary for accounting purposes only.

** The city normal cost rate shown is for current active employees only. This rate will decrease over time as more active members become subject to the plan amendment that eliminates the Automatic Adjustment and the plan modifications approved by the membership in 2011.

*** The funding period has been calculated in accordance with the Texas PRB Guidelines for Actuarial Soundness, which allow funding the UAAL as a level percentage of payroll. In calculating the funding period, we have determined the level percentage of pay available to fund the UAAL as the excess of the fixed contribution rates over the normal cost rate. In order for this excess to be level, the normal cost rate must be level and, as such, has been determined using the entry age normal cost rate for the benefits available to members hired after February 28, 2011.

Dallas Police and Fire Pension System
Actuarial Valuation - January 1, 2013

Section 3
(continued)

Analysis of Change in UAAL

1. UAAL as of January 1, 2012	\$1,190,369,365
2. Changes due to:	
a. Expected increase/(amortization)	\$ 49,667,438
b. Method change	(483,872,726)
c. Actual contributions (greater)/less than expected	7,918,055
d. Liability experience	25,182,191
e. Asset experience	<u>273,916,724</u>
f. Total changes	\$ (127,188,318)
3. UAAL as of January 1, 2013	\$1,063,181,047

Analysis of Change in Funding Cost

1. 30-year funding cost* as of January 1, 2012	33.06%
2. Changes due to:	
a. Resetting of amortization from prior year**	(1.14)
b. Assumption change	0.00
c. Actual contributions (greater)/less than expected	0.11
d. Liability experience	(0.57)
e. Asset experience	3.99
f. Asset method change	<u>(7.10)</u>
g. Total	(4.71)
3. 30-year funding cost* as of January 1, 2013	28.35%

* 30-year funding cost is necessary for accounting purposes only.

** Includes decrease in employer normal cost percentage due to increased employee DROP contribution.

Analysis of Change in Funding Period

1. Funding period as of January 1, 2012	30 years
2. Changes due to:	
a. Passage of time	(1)
b. Assumption change	0
c. Actual contributions (greater)/less than expected	1
d. Liability experience	0
e. Asset experience	12
f. Asset method change	<u>(19)</u>
g. Total changes	(7)
3. Funding period as of January 1, 2013	23 years

The funding period has been calculated consistent with the Texas PRB Guidelines for Actuarial Soundness, which allow funding the UAAL over a level percentage of payroll. In calculating the funding period, we have determined the level percentage of pay available to fund the UAAL as the excess of the fixed contribution rates over the normal cost rate. In order for this excess to be level, the normal cost rate must be level and, as such, has been determined using the entry age normal cost rate for the benefits available to members hired after February 28, 2011.

Dallas Police and Fire Pension System
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Section 4

Historical Trend Information

(As required by GASB #25 - Amounts are in millions of dollars)

	<u>Actuarial Value of Assets</u>	<u>Actuarial Liability (AAL) Entry Age</u>	<u>Unfunded AAL (UAAL)</u>	<u>Funded Ratio</u>	<u>Covered Payroll</u>	<u>UAAL as a Percentage of Covered Payroll</u>
January 1, 2008	3,259	3,644	385	89.4%	321	119.9%
January 1, 2009	3,040	3,878	838	78.4%	348	240.8%
January 1, 2010	3,383	4,133	750	81.8%	367	204.4%
January 1, 2011	3,431	4,316	885	79.5%	365	242.5%
January 1, 2012	3,379	4,569	1,190	73.9%	349	341.0%
January 1, 2013	3,795	4,858	1,063	78.1%	361	294.5%

GASB #25 Schedule of Employer Contributions for Year Ending December 31, 2012

<u>Annual Required Contribution</u>	<u>Percentage Contributed</u>
33.06% of Pay	83.2%

Dallas Police and Fire Pension System
Actuarial Valuation - January 1, 2013

Section 4
(continued)

**Summary of Accumulated Benefits
(FASB ASC 960)**

Accumulated Benefits at January 1, 2013

Vested benefits of participants and beneficiaries currently receiving payments		\$ 2,556,924,412
Other vested benefits		1,938,103,013
Nonvested benefits		<u>49,210,399</u>
Total benefits		\$ 4,544,237,824

ASC 960 Reconciliation

Accumulated benefits at January 1, 2012		\$ 4,531,031,238
Benefits accumulated	\$(160,375,849)	
Interest	376,681,946	
Benefits paid	(203,099,511)	
Assumption change	0	
Plan amendments	<u>0</u>	
Total Change		<u>13,206,586</u>
Accumulated benefits at January 1, 2013		\$ 4,544,237,824

Reconciliation of Fund Assets

	<u>Year Ending</u> <u>December 31, 2012</u>
1. Value of fund at beginning of year	\$ 2,990,943,353
2. Contributions	
a. City	103,310,264
b. Member	<u>22,490,884</u>
c. Total	\$ 125,801,148
3. Benefit payments (including DROP payments)	(203,099,511)
4. Gross earnings	299,034,650
5. Expenses	(6,314,669)
6. Value of assets at end of year	\$ 3,206,364,971
7. Estimated rate of return	9.92%

Dallas Police and Fire Pension System
Actuarial Valuation - January 1, 2013

Section 5
(continued)

Determination of Excess Earnings To Be Deferred

	<u>Year Ending</u> <u>December 31, 2012</u>
1. Market value at beginning of year	\$ 2,990,943,353
2. Net new investments	
a. Contributions	\$ 125,801,148
b. Benefit payments (including DROP payments)	(203,099,511)
c. Total	\$ (77,298,363)
3. Market value at end of year	\$ 3,206,364,971
4. Yield, net of expenses (3 - 1 - 2d)	\$ 292,719,981
5. Average balance [1 + ½ x (2d)]	2,952,294,171
6. Assumed investment return rate	8.50%
7. Expected net return (5 x 6)	\$ 250,945,005
8. Gains/(losses) subject to deferral (4 - 7)	\$ 41,774,976

Dallas Police and Fire Pension System
Actuarial Valuation - January 1, 2013

Section 5
(continued)

Calculation of Actuarial Value of Assets

1.	Market value of assets as of January 1, 2013			\$3,206,364,971	
2.	Deferral amounts				
		<u>Year</u>	<u>Total Gain/(Loss)</u>	<u>Percent Deferred</u>	<u>Deferral Amount</u>
a.		2012	\$ 41,774,976	90%	\$ 37,597,478
b.		2011	(316,579,427)	80%	(253,263,542)
c.		2010	62,874,951	70%	44,012,466
d.		2009	132,954,038	60%	79,772,423
e.		2008	(1,125,904,567)	50%	(562,952,284)
f.		2007	10,785,809	40%	4,314,324
g.		2006	168,016,769	30%	50,405,031
h.		2005	57,272,457	20%	11,454,491
i.		2004	N/A	10%	N/A
j.		Total			\$ (588,659,613)
3.	Preliminary actuarial value of assets (1 - 2e)			3,795,024,584	
4.	80% of Market value			2,565,091,977	
5.	120% of Market value			3,847,637,965	
6.	Actuarial value of assets (3, not less than 4 or more than 5)			3,795,024,584	
7.	Rate of return on actuarial value of assets prior to Method Change			0.30%	
8.	Rate of return on actuarial value of assets after Method Change			14.79%	

Dallas Police and Fire Pension System
Actuarial Valuation - January 1, 2013

Schedule A

Membership Data

	<u>January 1, 2013</u>	<u>January 1, 2012</u>
1. Active members (excluding DROP)		
a. Police and Fire		
1. Number	3,974	3,995
2. Covered payroll	\$227,581,470	\$226,996,912
3. Average annual pay	\$ 57,268	\$ 56,820
4. Average age	36.63	36.80
5. Average service (years)	9.70	9.85
b. Police		
1. Number	2,631	2,689
2. Covered payroll	\$151,312,498	\$153,304,969
3. Average annual pay	\$ 57,511	\$ 57,012
4. Average age	36.90	37.02
5. Average service (years)	10.06	10.11
c. Fire		
1. Number	1,343	1,306
2. Covered payroll	\$ 76,268,972	\$ 73,691,943
3. Average annual pay	\$ 56,790	\$ 56,426
4. Average age	36.11	36.34
5. Average service (years)	8.99	9.30

Dallas Police and Fire Pension System
Actuarial Valuation - January 1, 2013

Schedule A
(continued)

Membership Data (continued)

	<u>January 1, 2013</u>	<u>January 1, 2012</u>
2. Active members (DROP only)		
a. Police and Fire		
1. Number	1,426	1,381
2. Covered payroll	\$133,462,519	\$122,498,082
3. Average annual pay	\$ 93,592	\$ 88,702
4. Average age	54.14	54.14
5. Average total service (years)	27.94	28.06
6. Average time in DROP (years)	4.70	4.65
7. DROP account balance	\$432,840,550	\$415,259,441
b. Police		
1. Number	851	805
2. Covered payroll	\$ 78,183,319	\$ 69,874,323
3. Average annual pay	\$ 91,872	\$ 86,800
4. Average age	53.59	53.67
5. Average total service (years)	27.12	27.30
6. Average time in DROP (years)	4.15	4.12
7. DROP account balance	\$220,682,041	\$208,655,908
c. Fire		
1. Number	575	576
2. Covered payroll	\$ 55,279,200	\$ 52,623,759
3. Average annual pay	\$ 96,138	\$ 91,361
4. Average age	54.96	54.80
5. Average service (years)	29.16	29.13
6. Average time in DROP (years)	5.53	5.39
7. DROP account balance	\$212,158,509	\$206,603,533

Dallas Police and Fire Pension System
Actuarial Valuation - January 1, 2013

Schedule A
(continued)

Membership Data
(continued)

	<u>January 1, 2013</u>	<u>January 1, 2012</u>
3. Active members (including DROP)		
a. Police and Fire		
1. Number	5,400	5,376
2. Covered payroll	\$361,043,989	\$349,494,994
3. Average annual pay	\$ 66,860	\$ 65,010
4. Average age	41.26	41.25
5. Average service (years)	14.52	14.53
6. DROP account balance	\$432,840,550	\$415,259,441
b. Police		
1. Number	3,482	3,494
2. Covered payroll	\$229,495,817	\$223,179,292
3. Average annual pay	\$ 65,909	\$ 63,875
4. Average age	40.98	40.85
5. Average service (years)	14.23	14.07
6. DROP account balance	\$220,682,041	\$208,655,908
c. Fire		
1. Number	1,918	1,882
2. Covered payroll	\$131,548,172	\$126,315,702
3. Average annual pay	\$ 68,586	\$ 67,118
4. Average age	41.76	41.99
5. Average service (years)	15.04	15.37
6. DROP account balance	\$212,158,509	\$206,603,533

Dallas Police and Fire Pension System
Actuarial Valuation - January 1, 2013

Schedule A
(continued)

Membership Data
(continued)

	<u>January 1, 2013</u>	<u>January 1, 2012</u>
4. Inactive members eligible for annuity		
a. Retired members	2,854	2,767
b. Beneficiaries	929	902
c. Number entitled to deferred benefits	<u>96</u>	<u>128</u>
d. Total number of inactive members	3,879	3,797
e. Total annual benefit	\$ 159,592,548	\$ 153,990,654
f. Average annual benefit	\$ 41,143	\$ 40,556
5. Inactive members with refunds due		
a. Number	86	75
b. Accumulated contribution balance	\$ 948,715	\$ 470,719

Dallas Police and Fire Pension System
Actuarial Valuation - January 1, 2013

Schedule B

**Summary of Benefit Provisions
As of January 1, 2013
For Actuarial Calculations**

Group A

Definitions

Base Pay: The annualized maximum monthly civil service pay established by the City for a police officer or fire fighter exclusive of any and all other forms of compensation.

City Service Incentive Pay: Additional annualized salary granted to Member under the authority of the City Charter.

Longevity Pay (Service Pay): Additional annualized salary granted to Member under provisions of Section 141.032, Local Government Code, for each year of service completed by such Member.

Pension Service: Time in years (prorated for fractional years) that Member made contributions under the terms of the Combined Pension Plan or under any Pension Plan within the Pension System.

Pension System: The Dallas Police and Fire Pension System

Qualified Surviving Spouse: The Member's legal spouse at time of death providing the marriage occurred prior to the Member's termination of employment (entering DROP is not considered termination of employment) and continued until the member's death.

Dallas Police and Fire Pension System
Actuarial Valuation - January 1, 2013

Schedule B
(continued)

Qualified Surviving Children: All surviving unmarried children under 19 years of age and children that become handicapped before age 23 provided they were born or adopted before Member terminated his employment.

Contribution Rates

The Member contribution rate is 6.5%.

The City's contribution rate is a function of the highest Member contribution rate of any pension plan within the Pension System (currently Group B) as follows:

<u>City</u>	<u>Member</u>
28.5%	9.0%
27.5	8.5
26.0	8.0
24.5	7.5
23.0	7.0
21.5	6.5

Service Retirement Benefits

Annual Normal Retirement Pension

Greater of I or II:

I. Condition for Retirement: Age 50 with 20 years of Pension Service.

Amount of Pension Benefit: 50% of Base Pay, plus 50% of Longevity Pay, plus 50% City Service Incentive Pay. Pension is increased annually to reflect changes in the rate of

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Schedule B
(continued)

Longevity Pay and City Service Incentive Pay based on Member's Pension Service and status at date of retirement.

Member may retire as early as age 45 with 20 years of Pension Service. Pension benefit will be reduced by 2/3 of 1% per month of retirement prior to age 50.

II. Condition for Retirement: Age 55 with 20 years of Pension Service.

Amount of Pension Benefit: 3% of Base Pay for each year of Pension Service (maximum of 32 years), plus 50% of Longevity Pay, plus 50% of City Service Incentive Pay. Pension is increased annually by 4% of the original pension benefit.

Member may retire as early as age 50 with 20 years of Pension Service. Pension benefit will be reduced by 2/3 of 1% for each month of retirement prior to age 55.

Disability Retirement Benefits

Condition for Retirement: Disability preventing Member from performing his or her duties with his or her department and lasting for a period of not less than 90 days.

Annual Amount of Pension

Greater of I or II:

I. Same as Normal Retirement Pension (I).

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Schedule B
(continued)

II. Depending on Source of Disability

- a. Service Related Disability: 3% of Base Pay for each year of Pension Service (minimum of 20 years, maximum of 32 years), plus 50% of Longevity Pay, plus 50% of City Service Incentive Pay. Benefit is increased annually by 4% of the original amount, or
- b. Non-Service Related Disability: 3% of Base Pay for each year of Pension Service (maximum 32 years), plus 50% of Longevity Pay, plus 50% of City Service Incentive Pay. Benefit is increased annually by 4% of the original amount.

Survivor Benefits

Survivor Benefits for Qualified Surviving Spouse: Death in Active Service: 50% of Service Retirement Pension calculated with a minimum of 20 years of Pension Service.

Survivor Benefits when no Qualified Surviving Spouse: Death in Active Service: 50% of Service Retirement Pension calculated with a minimum of 20 years of Pension Service. The benefit will be paid as a lump sum equal to the value of the lesser of a 10-year benefit or the remainder of the 10-year period if Qualified Surviving Children receive benefit.

Survivor Benefits After Retirement: The Qualifying Surviving Spouse shall receive 50% of any benefits paid to the Member. The percentage is increased if the Qualified Surviving Spouse has attained age 55, there are no Qualified Surviving Children who are eligible for death benefits, the member retired after age 55 with 20 years of Pension Service or the Member's age plus Pension Service at retirement was at least 78 and the Member was receiving a benefit based on the former Plan A formulas.

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Schedule B
(continued)

Survivor Benefits After Retirement or Termination for a Non-Qualifying Surviving Spouse: The Surviving Spouse shall receive 50% of any benefits paid to the Member. However, the Member's benefit will be reduced for this coverage.

Survivor Benefits for Qualified Surviving Children: An amount equal to the amount paid to the Qualified Surviving Spouse divided among the Qualified Surviving Children. Amount paid as long as one or more children continue to qualify.

Survivor Benefits After December 17, 2001: For Members leaving active service after December 17, 2001, a Member may elect to receive an actuarially reduced benefit in order to provide a greater survivor percentage to the qualified spouse. Minimum benefits do not apply.

Minimum Benefits

The minimum benefit is \$2,200 monthly for 20 years of Pension Service at retirement, and \$1,200 monthly for Qualified Surviving Spouses, if there are no Qualified Surviving Children receiving benefits. The minimum benefit is \$1,100 monthly for Qualified Surviving Children and Qualified Surviving Spouses if Qualified Surviving Children are receiving benefits. This minimum does not affect the base benefit. The benefit will not increase until the base retirement benefit with annual increases exceeds the minimum.

Benefit Supplement

If a Member retires with 20 years of Pension Service or if a Member is receiving a service related disability the Member or the Member's Qualified Surviving Spouse is entitled to receive the greater of \$75 or 3% of the monthly benefit payable to the member when the Member or the Qualified Surviving Spouse attains age 55. This supplement is also available for both the

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Schedule B
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Member or the Member's Non-Qualifying Surviving Spouse for a member who has elected a reduced benefit to obtain coverage for a Non-Qualifying Surviving Spouse.

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Schedule B
(continued)

Group B

Generally applicable to Members hired on or before February 28, 2011.

Definitions

Computation Pay: The annualized monthly rate of pay for the highest civil service rank held by a Member plus Educational Incentive Pay plus Longevity Pay plus City Service Incentive Pay.

Average Computation Pay: Computation Pay averaged over 36 months.

City Service Incentive Pay: Additional annualized salary granted to Member under the authority of the City Charter.

Longevity Pay: Additional annualized salary granted to Members under a provision of Section 141.032, Local Government Code, for each year of service completed by such Member.

Pension Service: The period, in years, months, and days, during which the Member made contributions under the terms of the Combined Plan or any Pension Plan within the Pension System.

Qualified Surviving Spouse: The Member's legal spouse at the time of death providing the marriage occurred prior to the Member's termination of employment (entering DROP is not considered termination of employment).

Pension System: The Dallas Police and Fire Pension System.

Qualified Surviving Children: All surviving unmarried children under 19 years of age and children that become handicapped before age 23 provided they were born or adopted before the Member terminated his employment.

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Schedule B
(continued)

Educational Incentive Pay: Additional annualized salary granted to reward completion of college credits.

Contribution Rates

The City's contribution percentage is a function of the Member's contribution percentage as shown below:

<u>City</u>	<u>Member</u>
28.5%	9.0%
27.5	8.5
26.0	8.0
24.5	7.5
23.0	7.0
21.5	6.5

The contribution rate for Members not participating in DROP is currently 8.5%. The contribution rate for Members participating in DROP is 3.0% for pay periods ending on or after October 1, 2011, 6.0% for pay periods ending on or after October 1, 2012, and 8.5% for pay periods ending on or after October 1, 2013.

Service Retirement Benefits

Annual Normal Retirement Pension

Condition for Retirement: Attainment of age 50 and five years of Pension Service.

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Schedule B
(continued)

Amount for Allowance: 3% of Average Computation Pay for each year of Pension Service to a maximum of 32 such years.

Early Retirement Pension

Condition for Retirement:

- a. Attainment of age 45 and five years of Pension Service.

Amount of Pension: 3% of Average Computation Pay for each year of Pension Service reduced 2/3 of 1% for each month by which retirement precedes age 50.

- b. 20 years of Pension Service

Amount of Pension: 20 & Out multiplier of Average Compensation Pay for each year of Pension Service.

<u>Age</u>	<u>20 & Out Multiplier</u>
50 & above	3.00%
49	2.75%
48	2.75%
47	2.50%
46	2.25%
45 & below	2.00%

Special Rule for Members of former Old Plan or Plan A

Group B Members who formerly were Members of either the former Old Plan or Plan A may elect to receive Group A benefits and receive a reimbursement of the additional



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Schedule B
(continued)

contributions paid under Group B provisions in excess of the contributions that would have been made under Group A.

Disability Retirement Benefits

Service-Related Disability

Condition for Retirement: Disability preventing the Member from performing his or her duties with his or her department and lasting for a period of not less than 90 days.

Amount of Pension: 60% plus 3% for each year of Pension Service (maximum of 32 years) over 20, of Average Computation Pay.

Non-Service Related Disability

Condition for Retirement: Disability preventing the Member from performing his or her duties with his or her department and lasting for a period of not less than 90 days.

Amount of Pension: 3% of Average Computation Pay for each year of Pension Service (maximum 32 years).

Survivor Benefits

Survivor Benefits for Qualified Surviving Spouse: Death in Active Service: 1.50% of the Member's Average Computation Pay for each year of Pension Service with a minimum of 20 such years and a maximum of 32 such years.

Survivor Benefits when no Qualified Surviving Spouse: Death in Active Service: 50% of Service Retirement Pension calculated with a minimum of 20 years of Pension Service. The benefit will

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be paid as a lump sum equal to the value of the lesser of a 10-year benefit or the remainder of the 10-year period if Qualifying Surviving Children receive benefit.

Survivor Benefits After Retirement: The Qualified Surviving Spouse shall receive 50% of any benefits paid to the Member. The percentage is increased if the Qualified Surviving Spouse has attained age 55, there are no Qualified Surviving Children who are eligible for death benefits and the Member retired after age 55 with 20 years of Pension Service or if the Member's age plus Pension Service at retirement was at least 78.

Survivor Benefits After Retirement or Termination for a Non-Qualifying Surviving Spouse: The Surviving Spouse shall receive 50% of any benefits paid to the Member. However, the Member's benefit will be reduced for this coverage.

Survivor Benefits for Qualified Surviving Children: An amount equal to the amount paid to a Qualified Surviving Spouse is divided among the Qualified Surviving Children and continues to be paid as long as one or more of the children continue to qualify.

Survivor Benefits After December 17, 2001: For Members leaving active service after December 17, 2001, a Member may elect to receive an actuarially reduced benefit in order to provide a greater survivor percentage to the qualified spouse. Minimum benefits do not apply.

Post-Retirement Adjustments

Annually, on the first day of October, benefits in pay status will be increased by an amount equal to 4% of the original pension amount. New Members hired after December 31, 2006 will not be eligible for an automatic increase.

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Minimum Benefits

The minimum benefit for normal retirement is \$2,200 monthly (prorated if less than 20 years at retirement) and \$1,200 monthly for Qualified Surviving Spouses, if there are no Qualified Surviving Children receiving benefits. The minimum benefit is \$1,100 monthly for Qualified Surviving Children and Qualified Surviving Spouses if Qualified Surviving Children are receiving benefits. This benefit does not affect the base benefit. The benefit will not increase until the base retirement benefit with annual increases exceeds the minimum.

Benefit Supplement

If a Member retires with 20 years of Pension Service or if a Member is receiving a service related disability the Member or the Member's Qualified Surviving Spouse is entitled to receive the greater of \$75 or 3% of the monthly benefit payable to the Member when the Member or the Qualified Surviving Spouse attains age 55. This supplement is also available for both the Member or the Member's Non-Qualifying Surviving Spouse for a member who has elected a reduced benefit to obtain coverage for a Non-Qualifying Surviving Spouse.

Deferred Retirement Option Plan

As of January 1, 1993, at normal retirement age, a Member may elect to enter the Deferred Retirement Option Plan (DROP). As of January 1, 1999, a member may also elect to enter DROP after 20 years of Pension Service. Retirement benefits will be calculated as if the Member retired on that date. As of October 1, 2011, Members continue making contributions to the Combined Pension Plan while active and participating in DROP. Each month, the retirement benefit will be accumulated in an account earning interest based on a ten-year weighted average of the System's actual market return. Upon termination of employment, the Member will have the balance in account in addition to the monthly benefit payable as though the Member retired at the date the Member entered DROP.

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Schedule B
(continued)

Group B

For Members hired after February 28, 2011

Definitions

Computation Pay: The annualized monthly rate of pay for the highest civil service rank held by a Member plus Educational Incentive Pay plus Longevity Pay plus City Service Incentive Pay.

Average Computation Pay: Computation Pay averaged over 60 months.

City Service Incentive Pay: Additional annualized salary granted to Member under the authority of the City Charter.

Longevity Pay: Additional annualized salary granted to Members under a provision of Section 141.032, Local Government Code, for each year of service completed by such Member.

Pension Service: The period, in years, months, and days, during which the Member made contributions under the terms of the Combined Plan or any Pension Plan within the Pension System.

Qualified Surviving Spouse: The Member's legal spouse at the time of death providing the marriage occurred prior to the Member's termination of employment (entering DROP is not considered termination of employment).

Pension System: The Dallas Police and Fire Pension System.

Qualified Surviving Children: All surviving unmarried children under 19 years of age and children that become handicapped before age 23 provided they were born or adopted before the Member terminated his employment.

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Schedule B
(continued)

Educational Incentive Pay: Additional annualized salary granted to reward completion of college credits.

Contribution Rates

The City's contribution percentage is a function of the Member's contribution percentage as shown below:

<u>City</u>	<u>Member</u>
28.5%	9.0%
27.5	8.5
26.0	8.0
24.5	7.5
23.0	7.0
21.5	6.5

The contribution rate for Members not participating in DROP is currently 8.5%. The contribution rate for Members participating in DROP is 3.0% for pay periods ending on or after October 1, 2011, 6.0% for pay periods ending on or after October 1, 2012, and 8.5% for pay periods ending on or after October 1, 2013.

Service Retirement Benefits

Annual Normal Retirement Pension

Condition for Retirement: Attainment of age 55 and 20 years of Pension Service.

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Schedule B
(continued)

Amount for Allowance: 2.0% of Average Computation Pay for the first 20 years of Pension Service, 2.5% of Average Computation Pay for the next five years of Pension Service, and 3.0% of Average Computation Pay for every year of Pension Service after 25 years.

Disability Retirement Benefits

Service-Related Disability

Condition for Retirement: Disability preventing the Member from performing his or her duties with his or her department for the first two years. After the initial two years, the disability must prevent the Member from performing any gainful employment for which he or she is qualified by reason of training, education or experience.

Amount of Pension: The greater of 50% of Average Computation Pay and the Normal Retirement Allowance.

Non-Service Related Disability

Condition for Retirement: Disability preventing the Member from performing his or her duties with his or her department and lasting for a period of not less than 90 days.

Amount of Pension: Normal Retirement Allowance.

Survivor Benefits

Survivor Benefits for Qualified Surviving Spouse: Death in Active Service: The greater of 50% of: (1) the benefit amount that the deceased Member would have received if the Member had left

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active service and had attained age 55, assuming a benefit based on a minimum of 50% of Average Computation Pay; or (2) as calculated using the benefit calculation formula and actual years of Pension Service.

Survivor Benefits when no Qualified Surviving Spouse: Death in Active Service: The greater of 50% of: (1) the benefit amount that the deceased Member would have received if the Member had left active service and had attained age 55, assuming a benefit based on a minimum of 50% of Average Computation Pay; or (2) as calculated using the benefit calculation formula and actual years of Pension Service. The benefit will be paid as a lump sum equal to the value of the lesser of a 10-year benefit or the remainder of the 10-year period if Qualifying Surviving Children receive benefit.

Survivor Benefits After Retirement: The Qualified Surviving Spouse shall receive 50% of any benefits paid to the Member. The percentage is increased if the Qualified Surviving Spouse has attained age 55, there are no Qualified Surviving Children who are eligible for death benefits and the Member retired after age 55 with 20 years of Pension Service or if the Member's age plus Pension Service at retirement was at least 78. A Member may elect to receive an actuarially reduced benefit in order to provide a greater survivor percentage to the qualified spouse. Minimum benefits do not apply.

Survivor Benefits After Retirement or Termination for a Non-Qualifying Surviving Spouse: The Surviving Spouse shall receive 50% of any benefits paid to the Member. However, the Member's benefit will be reduced for this coverage.

Survivor Benefits for Qualified Surviving Children: An amount equal to the amount paid to a Qualified Surviving Spouse is divided among the Qualified Surviving Children and continues to be paid as long as one or more of the children continue to qualify.

Dallas Police and Fire Pension System
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Schedule B
(continued)

Post-Retirement Adjustments

Not eligible for an automatic increase.

Minimum Benefits

The minimum benefit for normal retirement is \$2,200 monthly and \$1,200 monthly for Qualified Surviving Spouses, if there are no Qualified Surviving Children receiving benefits. The minimum benefit is \$1,100 monthly for Qualified Surviving Children and Qualified Surviving Spouses if Qualified Surviving Children are receiving benefits.

Benefit Supplement

If a Member retires or if a Member is receiving a service related disability the Member or the Member's Qualified Surviving Spouse is entitled to receive the greater of \$75 or 3% of the monthly benefit payable to the Member when the Member or the Qualified Surviving Spouse attains age 55. This supplement is also available for both the Member or the Member's Non-Qualifying Surviving Spouse for a member who has elected a reduced benefit to obtain coverage for a Non-Qualifying Surviving Spouse.

Deferred Retirement Option Plan

At normal retirement age, a member may elect to enter the DROP. Retirement benefits will be calculated as if the Member retired on that date. Each month, the retirement benefit will be deposited in an account while the active Member is participating in DROP. Upon termination of employment, the Member will have the balance in the account in addition to the monthly benefit payable as though the Member retired at the date the Member entered DROP.

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Schedule C

Summary of Actuarial Methods and Assumptions (Effective as of January 1, 2013)

Investment Return: 8.50% per annum, compounded annually, net all expenses including administrative expenses. This rate reflects an underlying inflation rate of 4.00% and a real rate of return of 4.50%.

DROP balances are assumed to earn 8.5% per annum for Members eligible to receive interest accumulation in their DROP account.

Separations Before Normal Retirement: Representative values of the assumed annual rates of withdrawal, death, and disability are as follows:

Age	Annual Rate per 1,000 Members			
	Withdrawal		Disability	
	Police	Fire	Police	Fire
20	70.0	23.0	.35	.70
25	70.0	23.0	.37	.75
30	70.0	18.0	.42	.84
35	40.0	18.0	.48	.96
40	30.0	18.0	.57	1.15
45	20.0	18.0	.79	1.58

Salary Increases: Representative values of the assumed annual rates of future salary increase attributable to seniority and promotion are as follows:

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Schedule C
(continued)

Years of Service	Annual Rate of Salary Increase
0	9.64%
5	9.19
10	7.72
15	5.82
20	4.56
25	4.08
30	4.00

Total payroll is assumed to increase 4.00% per year. New hires are assumed to replace terminations.

Overtime and other non-computation pay are assumed to be 11% of base pay. The City contributes on total pay including non-computation pay. This assumption is based on the revised compensation package adopted by the City Council in 2007.

Retirement Rates: The percentage of population assumed to retire at various ages is as follows:

Age	Rate	Age	Rate	Age	Rate
38	2%	48	2%	58	20%
39	2	49	2	59	20
40	2	50	4	60	20
41	2	51	3	61	20
42	2	52	3	62	20
43	2	53	3	63	20
44	2	54	3	64	20
45	2	55	25	65	100
46	2	56	20		
47	2	57	20		

Rates are applied when a member is eligible to retire.

Mortality: According to the RP-2000 Combined Healthy Mortality Table projected ten years beyond the valuation date using Scale AA, for healthy retirees and active members. The RP-2000 Combined Healthy Mortality Table with a one-year set forward for disabled members.

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Schedule C
(continued)

DROP Election: Members are assumed to elect DROP at age 50 with five years for Plan B if hired on or before February 28, 2011, age 55 with 20 years for Plan B if hired after February 28, 2011, age 55 with 20 years for Plan A, and age 50 with 20 years for Old Plan. Any active members who satisfy this criteria and have not entered DROP are assumed to never join DROP.

Spouses: 80% of active members are assumed to be married with the male three years older than the female. The age of the youngest child is assumed to be one year.

Assumption as to Choice of Plan Provisions: Those Members eligible to elect between Plan B and the Old Plan are assumed to elect in a manner which maximizes the benefit they receive.

Assumed Postretirement Cost of Living:

Plan A and Plan B: 4% of original pension annually for eligible Members

Future Expenses: All expenses, investment and administration, are paid from the Fund. The 8.50% assumed rate of return is net of these expenses.

Valuation Method: The method used to determine Normal Cost and Accrued Actuarial Liability is the Entry Age Normal Cost Method. Under the Entry Age Normal Cost Method, an annual Normal Cost is determined for each covered active Member which is the contribution required to provide all the projected pension benefits assuming this contribution is payable over a period ending on the date of retirement (separation from active service) and expressed as a level percentage of compensation. The Actuarial Accrued Liability is determined as the excess of the total present value of all pension benefits over the total present value of future Normal Costs. The Unfunded Actuarial Accrued Liability as of the valuation date is determined as the excess of the Actuarial Accrued Liability over the assets of the Fund.

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Dallas Police and Fire Pension System
 Actuarial Valuation - January 1, 2013

Schedule C
(continued)

The Normal Cost and Accrued Actuarial Liability are derived by making certain assumptions as to the rates of interest, mortality, turnover, etc., which are assumed to reflect experience for many years into the future. Since actual experience will differ from the assumptions, the costs determined must be regarded as estimates of the true costs of the Plan. The effects of any actuarial gains or losses are immediately reflected in the Unfunded Actuarial Accrued Liability and the Normal Cost.

Actuarial Value of Assets: The actuarial value of assets is calculated based on the following formula.

The actuarial value of assets is calculated based on the following formula:

$$MV - (9/10) \times G/(L)_1 - (8/10) \times G/(L)_2 - (7/10) \times G/(L)_3 - (6/10) \times G/(L)_4 - (5/10) \times G/(L)_5 - (4/10) \times G/(L)_6 - (3/10) \times G/(L)_7 - (2/10) \times G/(L)_8 - (1/10) \times G/(L)_9$$

where:

MV = the market value of assets as of the valuation date

$G/(L)_i$ = the asset gain or (loss) (i.e., actual return on assets less expected return on assets) for the i-th year preceding the valuation date.

In no event is the actuarial value of assets less than 80% nor more than 120% of the market value of assets.

Comparison of Actual Experience and Actuarial Expectations

Demographic Assumptions

The demographic assumptions used to value the liabilities of the System are used to estimate the timing and duration of the member contributions and benefit payments of the System. The main demographic assumptions used to value the liabilities of the System consist of termination prior to retirement, disability, retirement, death and DROP age. A comparison of the actual experience of the System to each of these assumptions follows.

Terminations Prior to Retirement			
This assumption was changed as of January 1, 2012 in order to better reflect the actual experience of the System and to better anticipate future expectations. The ratio of actual terminations prior to retirement to the expected terminations prior to retirement for the period January 1, 2012 through December 31, 2012 shows that during this period there have been about 3% less terminations than expected.			
January 1, 2012 through December 31, 2012			
	<u>Actual</u>	<u>Expected</u>	<u>Actual/Expected</u>
Terminations prior to Retirement	120	123	97%

Disability			
This assumption was last changed as of January 1, 1999 to better reflect the actual experience of the System and to better anticipate future expectations. The ratio of actual disability retirements to the expected disability retirements for the period January 1, 2008 through December 31, 2012 shows that during this period there have been about 27% less of disability retirements than expected. Since the actual number of disablements is so small, we do not feel that any change in this assumption is necessary at this time.			
January 1, 2008 through December 31, 2012			
	<u>Actual</u>	<u>Expected</u>	<u>Actual/Expected</u>
Disability Retirements	8	11	73%

Dallas Police and Fire Pension System
Actuarial Valuation - January 1, 2013

Schedule D
(continued)

Retirement (Leaving Active Service)

This assumption was changed as of January 1, 2005 to better reflect the actual experience of the System and to better anticipate future expectations. The ratio of actual retirements to the expected retirements using the new retirement rates for the period January 1, 2008 through December 31, 2012 shows that during this period there have been about 17% less retirements than expected. Due to the changes in DROP interest rates and Member contributions during the DROP period, we feel that no change is needed at this time due to the expectation that these changes will create an increase in retirement rates.

January 1, 2008 through December 31, 2012

	<u>Actual</u>	<u>Expected</u>	<u>Actual/Expected</u>
Retirement	684	826	83%

Death

This assumption was changed as of January 1, 2012 in order to meet current actuarial standards and to take into account mortality improvement. It is updated each year to project mortality improvements to ten years beyond the valuation date.

Age at DROP

This assumption has not changed since the implementation of DROP in 1993. The actual age at DROP is virtually the same as the assumed age of 50. We do not feel any change in assumption is necessary at this time since there is very little difference in the assumed age at DROP and the actual age at DROP.

Through December 31, 2012

	<u>Actual</u>	<u>Expected</u>	<u>Actual/Expected</u>
Age at DROP (from January 1, 1996)	49.8	50.0	100%
Age at DROP (from January 1, 2008)	49.3	50.0	99%

Economic Assumptions

The economic assumptions used to value the liabilities of the System are used to estimate the amount and cost of the benefit payments of the System. Economic assumptions are generally based on a building block approach with the inflation rate used as the initial basis. For example, in setting the long-term rate of return, the expected inflation rate is added to the expected real-rate of return to determine the nominal rate of return. This nominal rate of return is then used to determine the present value of future benefit payment amounts. The main economic assumptions used to value the liabilities of the System consist of inflation, long-term rate of return and salary increase rate. A discussion of these assumptions follows.

Inflation			
The inflation assumption used to value the liabilities of the System is 4%. This assumption was last changed as of January 1, 1999 to better anticipate future expectations. The average annual inflation rate (as measured by CPI-U) over the 60 years ending December 31, 2012 has been 3.66%. We feel that given the history of inflation rates and reasonable expectations of the future that the 4% inflation rate assumption is reasonable.			
January 1, 1952 through December 31, 2012			
	<u>Actual</u>	<u>Expected</u>	<u>Actual/Expected</u>
Inflation	3.66%	4.00%	92%

Salary Increases			
The salary increase assumption used to value the liabilities of the System varies by the service of the Member. This assumption was last changed as of January 1, 2007 to reflect the expected change in future pay increases. Based on our expectations of future promotional and merit salary increases and the assumed rate of inflation, we feel that the current salary increase rates are reasonable. A summary of the actual valuation earnings to the expected valuation earnings over the period January 1, 2008 through December 31, 2012 follows.			
January 1, 2008 through December 31, 2012			
	<u>Actual</u>	<u>Expected</u>	<u>Actual/Expected</u>
Valuation Compensation	\$1,718,301,825	\$1,783,855,639	96%

Dallas Police and Fire Pension System
Actuarial Valuation - January 1, 2013

Schedule D
(continued)

Long-Term Rate of Return on Plan Assets

The long-term rate of return on plan assets used to value the liabilities of the System is 8.5%. This assumption was last changed as of January 1, 1999 to better anticipate future expectations and to reflect the change in the inflation rate. Based on the asset allocation policy, expectations of future real rates of return and the expected administrative expenses of the System, we feel that an 8.5% long-term rate of return is reasonable. A summary of the nominal rates of return over the period October 1, 1988 through December 31, 2012 follows.

Period			Annualized Rate of Return
10/1/1988	through	9/30/1989	25.40%
10/1/1989	through	9/30/1990	(6.53)
10/1/1990	through	12/31/1991	20.73
1/1/1992	through	12/31/1992	2.94
1/1/1993	through	12/31/1993	14.06
1/1/1994	through	12/31/1994	2.78
1/1/1995	through	12/31/1995	24.33
1/1/1996	through	12/31/1996	16.69
1/1/1997	through	12/31/1997	13.84
1/1/1998	through	12/31/1998	13.68
1/1/1999	through	12/31/1999	24.39
1/1/2000	through	12/31/2000	(1.52)
1/1/2001	through	12/31/2001	(7.76)
1/1/2002	through	12/31/2002	(12.26)
1/1/2003	through	12/31/2003	31.65
1/1/2004	through	12/31/2004	13.96
1/1/2005	through	12/31/2005	10.81
1/1/2006	through	12/31/2006	14.64
1/1/2007	through	12/31/2007	8.85
1/1/2008	through	12/31/2008	(24.80)
1/1/2009	through	12/31/2009	13.78
1/1/2010	through	12/31/2010	10.72
1/1/2011	through	12/31/2011	(1.78)
1/1/2012	through	12/31/2012	9.92
10/1/1988	through	12/31/2012	9.69%

Effective for years beginning on October 1, 2011 and each October 1 thereafter, the DROP interest rate will be determined at a daily rate based on the arithmetic average of the annual market return on the System's investments for the preceding ten calendar years. However, the rate shall not be less than 8% nor more than 10%. The ten-year arithmetic average of the annual market return on the System's investments for the preceding ten calendar years is 8.78%. Therefore, the annual DROP interest rate for October 1, 2013 is 8.78%.

buckconsultants

TABLE 1
 THE NUMBER AND ANNUAL AVERAGE COMPENSATION OF ACTIVE
 (excluding DROP) MEMBERS DISTRIBUTED BY FIFTH AGE AND SERVICE
 AS OF JANUARY 1, 2013

POLICE

ATTAINED AGE	YEARS OF SERVICE																					
	Under 1		1 to 4		5 to 9		10 to 14		15 to 19		20 to 24		25 to 29		30 to 34		35 to 39		40 & up			
	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp		
Under 25	68	42,799	28	43,963	1	34,243	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 to 29	64	42,941	327	46,290	126	50,041	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 to 34	14	42,941	189	46,041	268	52,496	69	59,655	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 to 39	9	42,941	86	46,282	131	53,066	207	61,507	44	68,244	0	0	0	0	0	0	0	0	0	0	0	0
40 to 44	2	42,941	47	45,627	68	53,954	146	61,871	162	69,783	100	77,048	0	0	0	0	0	0	0	0	0	0
45 to 49	0	0	15	46,611	22	55,602	36	60,598	77	70,143	228	77,605	41	83,214	0	0	0	0	0	0	0	0
50 to 54	1	64,545	5	62,884	9	54,169	11	63,516	6	70,232	11	71,319	3	123,047	2	84,479	0	0	0	0	0	0
55 to 59	0	0	1	77,262	2	64,192	0	0	2	73,293	0	0	1	80,833	0	0	0	0	0	0	0	0
60 to 64	0	0	0	0	2	55,385	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0
70 & up	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE 1
THE NUMBER AND ANNUAL AVERAGE COMPENSATION OF ACTIVE
(excluding DROP) MEMBERS DISTRIBUTED BY FIFTH AGE AND SERVICE
AS OF JANUARY 1, 2013

FIRE

ATTAINED AGE	YEARS OF SERVICE																					
	Under 1		1 to 4		5 to 9		10 to 14		15 to 19		20 to 24		25 to 29		30 to 34		35 to 39		40 & up			
	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp		
Under 25	32	42,941	29	46,460	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 to 29	46	42,941	192	46,373	32	49,365	1	48,643	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 to 34	32	42,941	126	46,750	98	51,470	25	62,746	2	52,277	0	0	0	0	0	0	0	0	0	0	0	0
35 to 39	8	42,941	60	46,638	84	53,503	136	63,511	22	67,390	0	0	0	0	0	0	0	0	0	0	0	0
40 to 44	1	42,941	2	46,332	29	53,837	89	63,699	93	72,887	15	78,705	0	0	0	0	0	0	0	0	0	0
45 to 49	0	0	0	0	10	56,532	25	62,137	40	71,729	50	78,293	44	84,878	0	0	0	0	0	0	0	0
50 to 54	0	0	0	0	6	54,974	2	61,897	4	68,219	3	80,649	3	82,639	0	0	0	0	0	0	0	0
55 to 59	0	0	0	0	0	0	0	0	0	0	1	72,563	0	0	0	0	0	0	0	0	0	0
60 to 64	0	0	0	0	1	51,133	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0
70 & up	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE 1

THE NUMBER AND ANNUAL AVERAGE COMPENSATION OF ACTIVE
(excluding DROP) MEMBERS DISTRIBUTED BY FIFTH AGE AND SERVICE
AS OF JANUARY 1, 2013

POLICE AND FIRE

ATTAINED AGE	YEARS OF SERVICE																			
	Under 1		1 to 4		5 to 9		10 to 14		15 to 19		20 to 24		25 to 29		30 to 34		35 to 39		40 & up	
	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp
Under 25	100	42,845	57	45,233	1	34,243	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 to 29	110	42,941	519	46,321	158	49,904	1	48,643	0	0	0	0	0	0	0	0	0	0	0	0
30 to 34	46	42,941	315	46,324	366	52,222	94	60,477	2	52,277	0	0	0	0	0	0	0	0	0	0
35 to 39	17	42,941	146	46,428	215	53,236	343	62,301	66	67,959	0	0	0	0	0	0	0	0	0	0
40 to 44	3	42,941	49	45,656	97	53,919	235	62,563	255	70,915	115	77,264	0	0	0	0	0	0	0	0
45 to 49	0	0	15	46,611	32	55,893	61	61,229	117	70,685	278	77,729	85	84,076	0	0	0	0	0	0
50 to 54	1	64,545	5	62,884	15	54,491	13	63,267	10	69,427	14	73,319	6	102,843	2	84,479	0	0	0	0
55 to 59	0	0	1	77,262	2	64,192	0	0	2	73,293	1	72,563	1	80,833	0	0	0	0	0	0
60 to 64	0	0	0	0	3	53,967	0	0	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	0	0	0	0	0	0	0	0
70 & up	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE 2

**THE NUMBER AND ANNUAL AVERAGE COMPENSATION OF ACTIVE
(including DROP) MEMBERS DISTRIBUTED BY FIFTH AGE AND SERVICE
AS OF JANUARY 1, 2013**

POLICE

ATTAINED AGE	YEARS OF SERVICE																			
	Under 1		1 to 4		5 to 9		10 to 14		15 to 19		20 to 24		25 to 29		30 to 34		35 to 39		40 & up	
	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp
Under 25	68	42,799	28	43,963	1	34,243	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 to 29	64	42,941	327	46,290	126	50,041	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 to 34	14	42,941	189	46,041	268	52,496	69	59,655	0	0	0	0	0	0	0	0	0	0	0	0
35 to 39	9	42,941	86	46,282	131	53,066	207	61,507	44	68,244	0	0	0	0	0	0	0	0	0	0
40 to 44	2	42,941	47	45,627	68	53,954	146	61,871	162	69,783	112	78,324	0	0	0	0	0	0	0	0
45 to 49	0	0	15	46,611	22	55,602	36	60,598	82	70,506	303	80,528	88	87,600	0	0	0	0	0	0
50 to 54	1	64,545	5	62,884	13	58,336	21	69,510	28	81,217	136	87,162	184	94,794	111	96,108	1	91,577	0	0
55 to 59	0	0	1	77,262	4	68,272	2	59,911	6	78,106	28	88,377	47	94,014	77	94,558	27	96,146	3	92,845
60 to 64	0	0	0	0	3	69,673	1	79,651	0	0	10	91,351	13	93,019	10	82,149	17	97,588	7	90,429
65 to 69	0	0	0	0	1	99,108	1	71,160	0	0	1	91,427	0	0	3	88,544	3	103,997	3	102,200
70 & up	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE 2

THE NUMBER AND ANNUAL AVERAGE COMPENSATION OF ACTIVE
(including DROP) MEMBERS DISTRIBUTED BY FIFTH AGE AND SERVICE
AS OF JANUARY 1, 2013

FIRE

ATTAINED AGE	YEARS OF SERVICE																			
	Under 1		1 to 4		5 to 9		10 to 14		15 to 19		20 to 24		25 to 29		30 to 34		35 to 39		40 & up	
	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp
Under 25	32	42,941	29	46,460	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 to 29	46	42,941	192	46,373	32	49,365	1	48,643	0	0	0	0	0	0	0	0	0	0	0	0
30 to 34	32	42,941	126	46,750	98	51,470	25	62,746	2	52,277	0	0	0	0	0	0	0	0	0	0
35 to 39	8	42,941	60	46,638	84	53,503	136	63,511	22	67,390	0	0	0	0	0	0	0	0	0	0
40 to 44	1	42,941	2	46,332	29	53,837	89	63,699	93	72,887	16	79,549	0	0	0	0	0	0	0	0
45 to 49	0	0	0	0	10	56,532	25	62,137	41	72,089	71	82,736	81	92,304	0	0	0	0	0	0
50 to 54	0	0	0	0	8	58,470	4	68,265	16	83,388	41	91,861	151	95,895	54	98,612	1	79,605	0	0
55 to 59	0	0	0	0	1	54,028	0	0	2	83,655	16	87,445	61	98,607	78	97,845	21	96,641	2	103,538
60 to 64	0	0	0	0	1	51,133	1	78,992	1	95,478	5	83,856	3	108,791	12	88,919	32	97,900	10	92,273
65 to 69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	94,132	5	93,463	6	102,160
70 & up	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	146,654

TABLE 2
THE NUMBER AND ANNUAL AVERAGE COMPENSATION OF ACTIVE
(including DROP) MEMBERS DISTRIBUTED BY FIFTH AGE AND SERVICE
AS OF JANUARY 1, 2013

POLICE AND FIRE

ATTAINED AGE	YEARS OF SERVICE																			
	Under 1		1 to 4		5 to 9		10 to 14		15 to 19		20 to 24		25 to 29		30 to 34		35 to 39		40 & up	
	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp	#	Avg Comp
Under 25	100	42,845	57	45,233	1	34,243	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 to 29	110	42,941	519	46,321	158	49,904	1	48,643	0	0	0	0	0	0	0	0	0	0	0	0
30 to 34	46	42,941	315	46,324	366	52,222	94	60,477	2	52,277	0	0	0	0	0	0	0	0	0	0
35 to 39	17	42,941	146	46,428	215	53,236	343	62,301	66	67,959	0	0	0	0	0	0	0	0	0	0
40 to 44	3	42,941	49	45,656	97	53,919	235	62,563	255	70,915	128	78,477	0	0	0	0	0	0	0	0
45 to 49	0	0	15	46,611	32	55,893	61	61,229	123	71,034	374	80,947	169	89,854	0	0	0	0	0	0
50 to 54	1	64,545	5	62,884	21	58,387	25	69,311	44	82,007	177	88,251	335	95,290	165	96,928	2	85,591	0	0
55 to 59	0	0	1	77,262	5	65,423	2	59,911	8	79,494	44	88,038	108	96,608	155	96,212	48	96,362	5	97,122
60 to 64	0	0	0	0	4	65,038	2	79,321	1	95,478	15	88,853	16	95,977	22	85,842	49	97,792	17	91,514
65 to 69	0	0	0	0	1	99,108	1	71,160	0	0	1	91,427	0	0	5	90,779	8	97,413	9	102,173
70 & up	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	146,654

TABLE 3

THE NUMBER AND ANNUAL RETIREMENT
ALLOWANCE OF RETIRED MEMBERS
BY AGE AS OF JANUARY 1, 2013

POLICE AND FIRE

AGE	NUMBER	BENEFIT	AVERAGE BENEFIT
Less than 50	35	1,129,164	32,262
50 to 54	151	6,345,613	42,024
55 to 59	318	17,774,197	55,894
60 to 64	676	36,962,422	54,678
65 to 69	576	28,102,487	48,789
70 to 74	397	19,391,515	48,845
75 to 79	249	11,227,302	45,090
80 to 84	192	7,532,087	39,230
85 to 89	74	2,798,902	37,823
Greater than or equal to 90	16	601,648	37,603
TOTAL	2,684	131,865,337	49,130
POLICE	1,580	\$ 75,074,072	\$ 47,515
FIRE	1,104	\$ 56,791,265	\$ 51,441

TABLE 4
 THE NUMBER AND ANNUAL RETIREMENT
 ALLOWANCE OF DISABLED MEMBERS
 BY AGE AS OF JANUARY 1, 2013

POLICE AND FIRE

AGE	NUMBER	BENEFIT	AVERAGE BENEFIT
Less than 40	5	140,576	28,115
40 to 44	6	215,931	35,989
45 to 49	14	544,884	38,920
50 to 54	9	295,728	32,859
55 to 59	17	572,608	33,683
60 to 64	25	1,074,130	42,965
65 to 69	21	766,571	36,503
70 to 74	27	1,172,901	43,441
75 to 79	18	678,487	37,694
Greater than or equal to 80	28	1,053,687	37,632
TOTAL	170	6,515,503	38,326
POLICE	68	\$ 2,325,987	\$ 34,206
FIRE	102	\$ 4,189,516	\$ 41,074

TABLE 5

THE NUMBER AND ANNUAL RETIREMENT
ALLOWANCE OF BENEFICIARIES
BY AGE AS OF JANUARY 1, 2013

POLICE AND FIRE

AGE	NUMBER	BENEFIT	AVERAGE BENEFIT
Less than 50	76	1,194,210	15,713
50 to 54	52	1,202,474	23,125
55 to 59	50	1,223,558	24,471
60 to 64	97	2,248,659	23,182
65 to 69	117	2,734,009	23,368
70 to 74	125	3,175,410	25,403
75 to 79	137	2,985,655	21,793
80 to 84	125	2,497,509	19,980
85 to 89	107	2,009,085	18,776
Greater than or equal to 90	43	802,077	18,653
TOTAL	929	20,072,646	21,607
POLICE	536	\$ 11,241,281	\$ 20,973
FIRE	393	\$ 8,831,365	\$ 22,472

TABLE 6

THE NUMBER AND ANNUAL RETIREMENT
ALLOWANCE OF RETIRED MEMBERS,
DISABLED MEMBERS AND BENEFICIARIES
BY AGE AS OF JANUARY 1, 2013

POLICE AND FIRE

AGE	NUMBER	BENEFIT	AVERAGE BENEFIT
Less than 50	136	3,224,765	23,712
50 to 54	212	7,843,815	36,999
55 to 59	385	19,570,363	50,832
60 to 64	798	40,285,211	50,483
65 to 69	714	31,603,067	44,262
70 to 74	549	23,739,826	43,242
75 to 79	404	14,891,444	36,860
80 to 84	333	10,674,734	32,056
85 to 89	190	5,110,522	26,897
Greater than or equal to 90	62	1,509,739	24,351
TOTAL	3,783	158,453,486	41,886
POLICE	2,184	\$ 88,641,340	\$ 40,587
FIRE	1,599	\$ 69,812,146	\$ 43,660

TABLE 7

THE NUMBER AND FUTURE RETIREMENT
ALLOWANCE OF TERMINATED MEMBERS
ENTITLED TO A FUTURE BENEFIT
BY AGE AS OF JANUARY 1, 2013

POLICE AND FIRE

AGE	NUMBER	BENEFIT	AVERAGE BENEFIT
Less than 40	22	207,516	9,433
40 to 44	39	441,825	11,329
45 to 49	26	362,597	13,946
Greater than or equal to 50	9	127,124	14,125
TOTAL	96	1,139,062	11,865
POLICE	80	\$ 980,737	\$ 12,259
FIRE	16	\$ 158,325	\$ 9,895



