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Police Officers &  
Fire Fighters'  
Retirement Plan  
  
and  
  
Teachers'  
Retirement Plan

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Actuarial Valuations  
as of October 1, 2009  
for Fiscal Year 2011  
Contributions

December 15, 2009

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**Required Actuarial Certification**  
**Under District of Columbia Code §1-907 for Fiscal Year 2011 (\$ Millions)**

Certification	Code Section	Teachers	Police	Fire	Police/Fire Combined	Total District
<b>FY 2011 Normal Contribution Rate</b>	1-907.03(a)(3)(A)	0.0%	28.0%	30.8%	29.0%	16.3%
<b>Estimated FY 2011 Covered Payroll</b>	NA	\$352.6	\$325.4	\$131.4	\$456.8	\$809.4
<b>FY 2011 District Payment before 1-907.02(c)</b>	NA	\$0.0	\$91.1	\$40.5	\$131.6	\$131.6
<b>FY 2009 Shortfall/Overpayment</b>	1-907.02(c)	\$0.0	\$(2.4)	\$(2.0)	\$(4.4)	\$(4.4)
<b>FY 2011 District Payment</b>	NA	\$0.0	\$88.7	\$38.5	\$127.2	\$127.2
<b>Present Value of Future Benefits</b>	1-907.03(a)(3)(B)	\$1,567.5	\$3,411.8	\$1,552.1	\$4,963.9	\$6,531.4
<b>Current Value of Assets</b>	1-907.03(a)(3)(C)	\$1,204.4	\$1,829.7	\$708.9	\$2,538.6	\$3,743.0
<b>Actuarial Value of Assets</b>	1-907.03(a)(3)(D)	\$1,445.0	\$2,197.7	\$850.7	\$3,048.4	\$4,493.4

Actuarial Assumptions

The non-economic assumptions used for this valuation represent the actuary's best estimates of the future experience for the plans. Upon review of recommended economic assumptions, the Board elected to choose an inflation assumption slightly more conservative than the actuary's recommended rate.

Contribution Adjustment for Teachers Corrections

	Teachers	Police	Fire	Police/Fire Combined	Total District
<b>FY 2011 District Payment from above</b>	\$0.0	\$88.7	\$38.5	\$127.2	\$127.2
<b>Additional Payment for Teachers Corrections (see Appendix B)</b>	3.0	0.0	0.0	0.0	3.0
<b>Total Payment for FY2011</b>	\$3.0	\$88.7	\$38.5	\$127.2	\$130.2



Gregory M. Stump, F.S.A., E.A.

12/10/2009

(Date)



## Introduction

### Executive Summary

This actuarial valuation of the District of Columbia Police Officers and Fire Fighters' Retirement Fund and the District of Columbia Teachers' Retirement Fund (the Funds) has produced a small decrease in required contributions between fiscal year 2010 and fiscal year 2011.

**Table 1: Comparative Summary**

(\$ millions)	October 1, 2008		October 1, 2009	
<b>Total Fund</b>				
Actuarial Accrued Liability (AAL)	\$4,276.8	<b>Funding Ratio</b>	\$4,332.4	<b>Funding Ratio</b>
Actuarial Value of Assets (AVA) <sup>1</sup>	4,379.7	102.4%	4,493.4	103.7%
Market Value of Assets (MVA)	3,734.7	87.3%	3,743.0	86.4%
Unfunded AAL (AAL-AVA)	(102.9)		(161.0)	
<b>Investment Earnings</b>				
Market Value	(17.5%)		(2.3%)	
Actuarial Value	4.6%		0.4%	
Unrecognized Gain/(Loss)	\$(645.0)		\$(750.4)	
<b>Covered Payroll, Projected</b>				
Teachers	\$376.2		\$352.6	
Police/Fire	414.8		456.8	
Total	781.0		809.4	
<b>Employer Contributions</b>				
	<b>Rate</b>	<b>Amount</b>	<b>Rate</b>	<b>Amount</b>
Teachers	0.0%	\$ 0.0	0.0%	\$ 0.0
Police/Fire	28.5%	132.3	29.0%	127.2
Total	15.4%	132.3	16.3%	127.2
<b>Actuarial Cost Method</b>				
Aggregate (Entry Age Normal for AAL)				
<b>Asset Valuation Method</b>				
Smoothed value with 7 year recognition of investment gains and losses				
<b>Economic Assumptions</b>				
General Inflation (annual)	4.25%			
Wage Inflation (annual)	4.75%			
Total Return (annual)	7.00%			

<sup>1</sup> Reflects asset corridor such that AVA is limited to no less than 80% and no more than 120% of MVA.

### **Purposes of the Report**

This Report presents the results of the October 1, 2009 actuarial valuation of the D.C. Police Officers and Fire Fighters' Retirement Fund and the D.C. Teachers' Retirement Fund for the District of Columbia Retirement Board. The purposes of the actuarial valuation are:

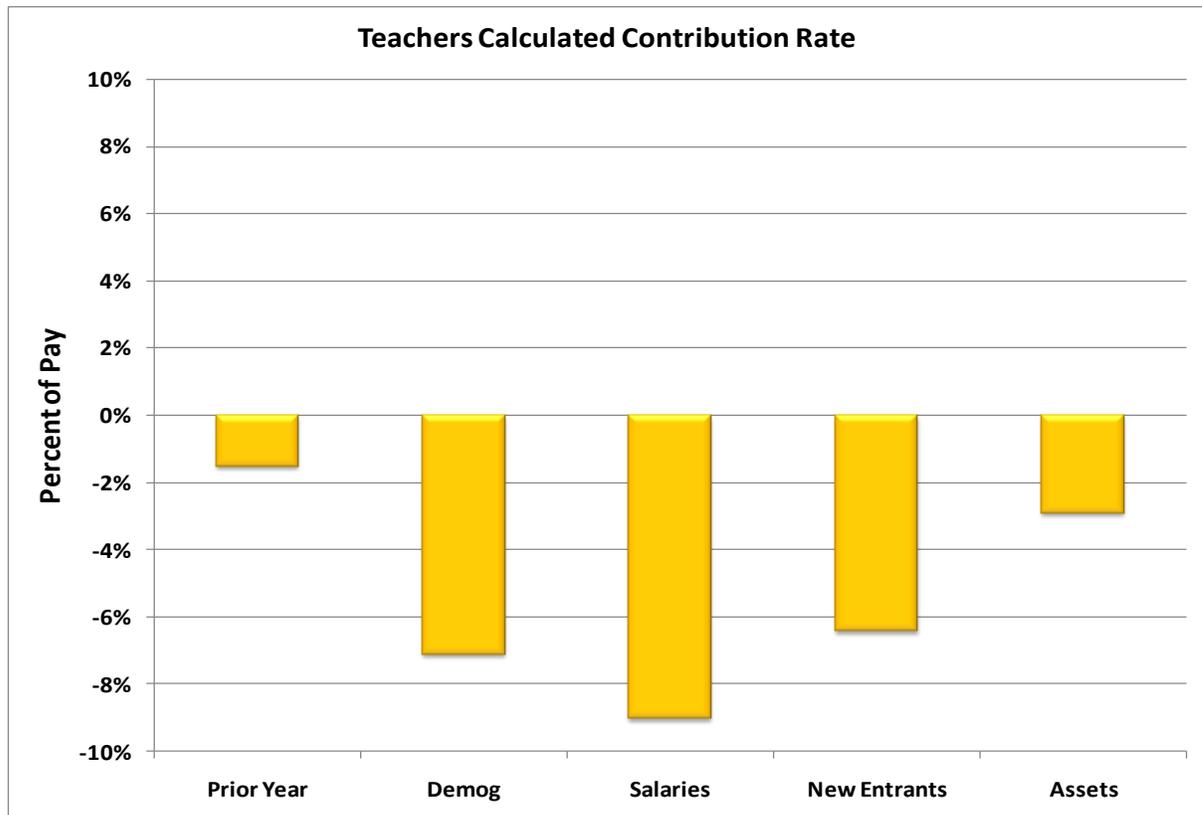
- To determine the appropriate contribution to the Funds to be paid by the District in fiscal year 2011 in accordance with the Replacement Plan Act;
- To review the experience of the Funds over the past year and to discuss reasons for changes in the Funds costs;
- To identify and discuss any emerging trends in Fund costs;
- To present those items required for disclosure under Statements No. 25 and 27 of the Governmental Accounting Standards Board (GASB); and
- To determine the funded status using the Entry Age Normal actuarial funding method.

**District Contribution Rates**

The total decrease in contributions was the net result of several factors. Table 2 and Figures 1 through 3 below show incremental changes from fiscal year 2010 contribution rates to fiscal year 2011 rates.

**Table 2: Change in District Contribution Rate from FY2010 to FY2011**

	District Contribution Rate (% Payroll)		
	Teachers	Police	Fire
FY2010 Rate (before limitation)	(1.5%)	28.5%	28.6%
Change Due to:			
Demographic Experience	(5.5%)	(1.9%)	(0.2%)
Salary Experience	(1.8%)	(3.8%)	(1.7%)
New Entrants	2.4%	1.1%	0.7%
Investment Experience	3.5%	4.1%	3.4%
Total Change	(1.4%)	(0.5%)	2.2%
FY2011 Rate (before limitation)	(2.9%)	28.0%	30.8%
FY2011 Rate (limited to no less than 0%)	0.0%	28.0%	30.8%



**Figure 1: Teachers Contribution Rates (limited to no less than 0%)**

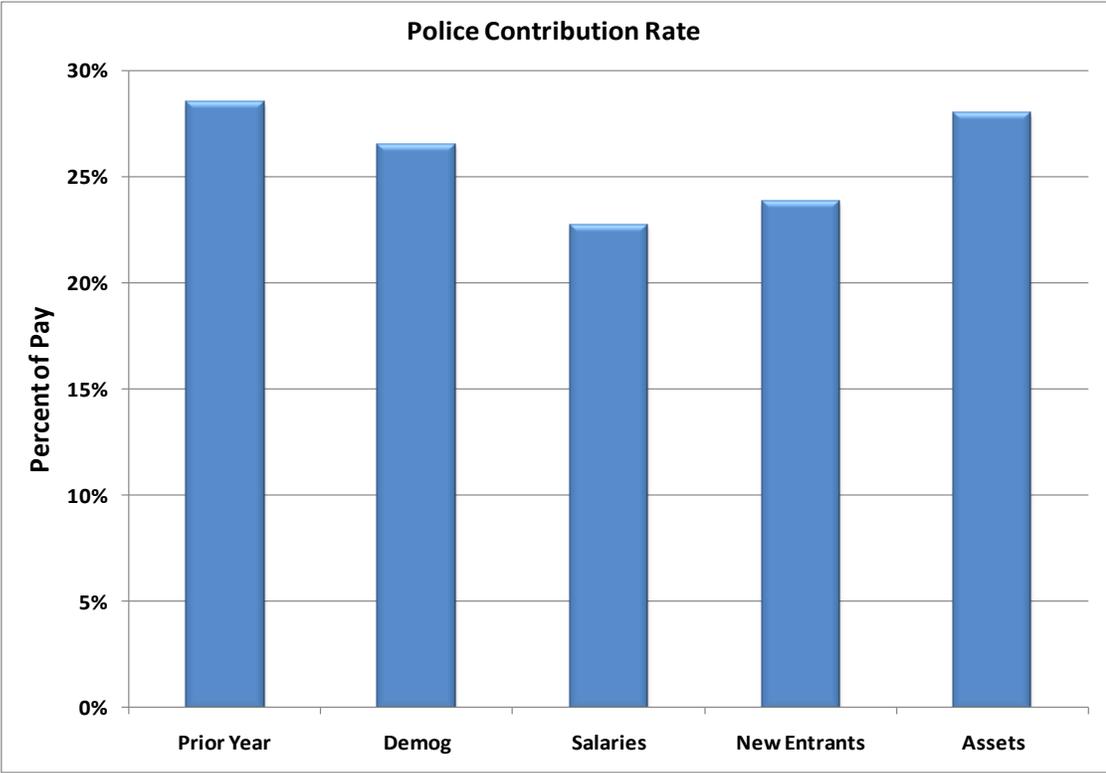


Figure 2: Police Contribution Rates

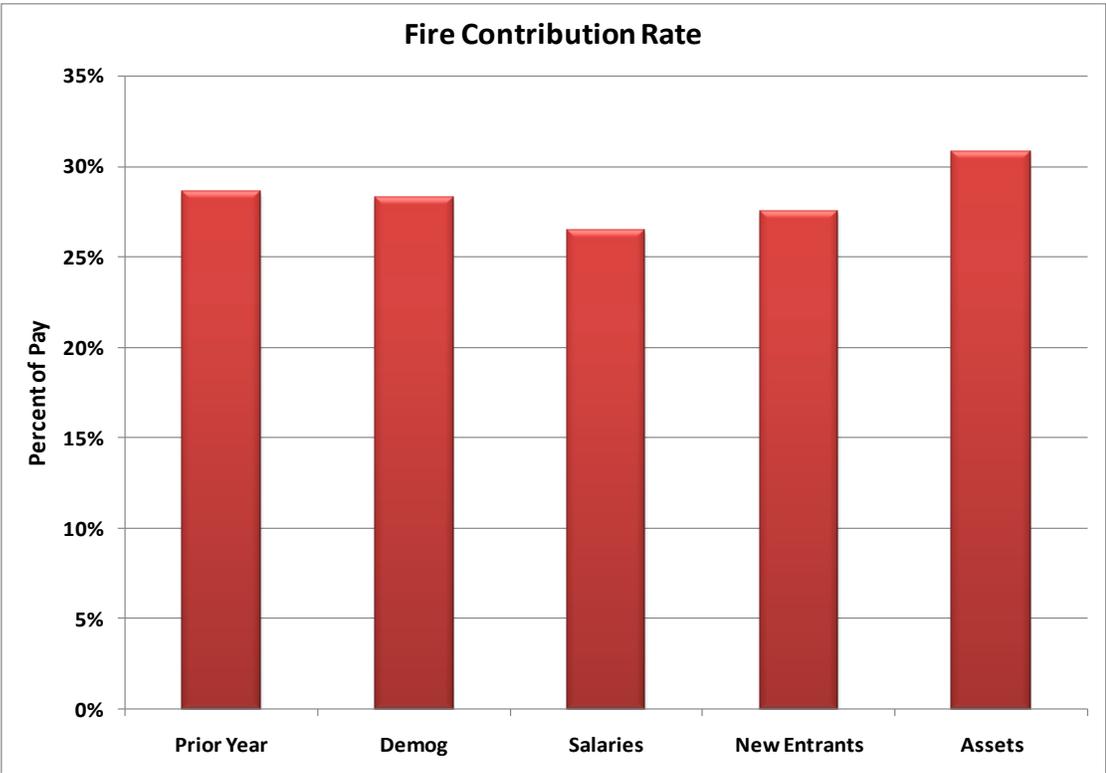


Figure 3: Fire Contribution Rates



- Overall demographic experience produced a decrease in contribution rates.

A demographic gain occurred because actual demographic experience (mortality, disabilities, terminations, and retirements) was more favorable than expected. This also includes the impact of a cost-of-living increase during 2009 that was significantly lower than the 4.25% expected for most retirees.

- Salary experience produced a decrease in contribution rates.

The total salary for continuing active participants in all plans was more than 5% lower than expected on average, based on the prior year's demographic information and salary increase assumptions, causing a decrease in contribution rates for all groups.

- New entrants to the Plans produced a small increase in contribution rates.

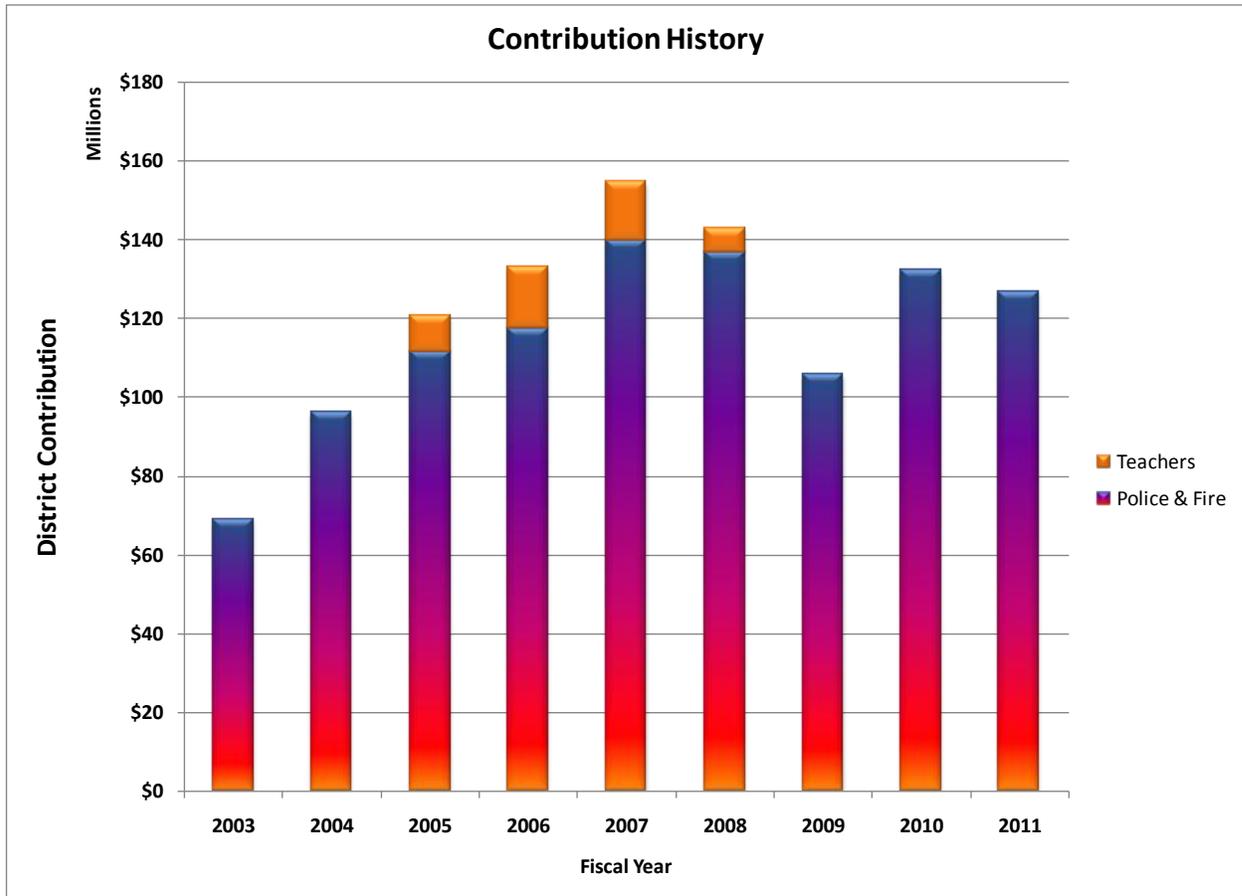
New members continued to enter the Plans during the year. There were more than 1,000 new entrants and rehired members (primarily teachers). Since the District's contribution rate for new entrants is greater than the contribution rate for continuing plan members, the overall contribution rates increased.

- Investment returns caused an increase in contribution rates.

The actuarially-determined rate of return on the value of Funds' assets was 0.4% during fiscal Year 2009, the result of lower than expected market returns and recognition of past losses. The lower than expected asset value of the Fund caused an increase in the fiscal year 2011 contribution rates. For the Police & Fire Fund, this was the most significant factor impacting the contribution rates.

## History of Contributions

Figure 4 below shows a recent history of District contributions to the Funds.



**Figure 4: Historical Contribution Amounts**

We can see from the graph that contributions increased steadily from 2003 through 2008 (based on valuations from 2001 through 2005). This is due partly to the normal increase expected due to the annual growth in payroll; however, this would not normally cause such a substantial increase in contributions. Payroll increased by about 15% over this time period, while contributions doubled.

One of the primary drivers of this rapid increase was the poor investment returns experienced by the DC Plans as well as most other U.S. pension plans from 2000 to 2002. Asset smoothing caused the effects of these poor returns to be realized over an extended period of time. Favorable experience, including investment returns, decreased the total contributions to the Funds from 2008 to 2009; however, losses during 2009 caused an increase for fiscal year 2010.

A increasing pattern is expected to occur in the near future as investment losses are recognized; however, significant gains from salary increases and COLAs lower than expected served to somewhat stabilize the contribution rate for fiscal year 2011.

## Future Contributions

As of October 1, 2009, there were about \$750 million in unrecognized investment losses, which will be fully recognized over the next six years. Further volatility of contribution rates is possible if the Plans experience significant gains or losses during this time period; however, this volatility can be somewhat tempered under the Entry Age Normal cost method, depending upon the Board's amortization and funding policies.

Under a stable contribution rate, which is desirable but not likely, contributions to the Fund are expected to increase annually as the total payroll of plan members increases. In consideration of the gradual recognition of the investment losses mentioned above, this annual increase is likely to be somewhat higher in the near term. For example, if total payroll increases by 5% in a given year, the total contribution may increase by more than 10%.

The favorable salary and inflation experience (salaries and COLAs less than assumed) during 2009 may be offset by future losses typically associated with economic recovery and possible higher inflation, so contributions may be subject to further upward pressure.

## Conclusion and Additional Information

The contribution rates developed in this study are not necessarily representative of future contribution rates. Rates may increase or decrease due to experience of the Plans, changes in assumptions or Plan provisions, or changes in actuarial cost methods. Data for this study was collected as of June 30, 2009, three months before the valuation date. Demographic experience from July 1 through September 30, 2009 is therefore not reflected herein, but will be recognized during the next valuation.

Statement Number 50 of the Governmental Accounting Standards Board (GASB) requires disclosure by governments that use the Aggregate actuarial cost method of the funded status and the presentation of a multiyear schedule of funding progress using the Entry Age Normal actuarial cost method as a surrogate. This is because the Aggregate method does not explicitly define actuarial accrued liability. Accordingly, a determination of the funding ratios using the Entry Age Normal actuarial cost method for each plan has been included within this report. The actuarial assumptions (demographic and economic) used for these calculations are the same as were used to determine the required contributions.

The Board has also adopted the Entry Age Normal method as a funding basis, pending legislative approval. This would cause a change in the way the contribution rates are developed, resulting in a rate that is either higher or lower than the rate under the Aggregate method in any given year. This is because under Entry Age Normal, the normal cost (annual benefit cost) is explicitly defined, and amortization period(s) and method would be determined based on the goals and policies of the Board. Either cost method will result in fully funding future benefit payments, so the year to year differences are expected to balance out in the long term.

This report has been prepared using generally accepted actuarial methods. If there are any questions about this report, please feel free to contact us.

Respectfully submitted,



Gregory M. Stump, FSA



Graham A. Schmidt, ASA

## **Section 1:**

# **Summary of Fund Provisions, Member Statistics, and Actuarial Assumptions**

## 1.1: Brief Outline of Fund Provisions

### District of Columbia Retirement Program for Teachers

#### Membership

##### *Eligibility*

Permanent, temporary, and probationary teachers for the District of Columbia public day schools become members automatically on their date of employment. Other employees covered by the Retirement of Public School Teachers Act – including librarians, principals, and counselors – also become members on their date of employment. Substitute teachers and employees of the Department of School Attendance and Work Permits are not covered. Some former D.C. teachers working at charter schools are eligible to remain in the Program.

##### *Member Contributions*

Members hired before November 1, 1996 are required to contribute 7% of annual pay. Members hired on or after November 1, 1996 contribute 8% of annual pay.

Members can also make voluntary post-tax contributions of up to 10% of annual pay towards an annuity in addition to any vested pension.

Interest is not credited to each Member's accumulated contributions.

#### Service

##### *School Service*

One year of school service is granted for each year of employment with the D.C. public day schools.

##### *Credited Service*

Service granted or purchased in addition to school service.

#### Average Pay

Average Pay is equal to the highest 36 consecutive months of pay, divided by three.

#### Voluntary Retirement

##### *Eligibility*

For participants hired before November 1, 1996:

- Age 62 with 5 years of school service;
- Age 60 with 20 years of total service, including 5 years of school service; or
- Age 55 with 30 years of total service, including 5 years of school service.

For participants hired on or after November 1, 1996:

- Age 62 with 5 years of school service;
- Age 60 with 20 years of total service, including 5 years of school service; or
- Any age with 30 years of total service, including 5 years of school service.

### ***Benefit Amount***

For participants hired before November 1, 1996:

- 1.5% of Average Pay times service up to 5 years, plus
- 1.75% of Average Pay times service between 5 and 10 years, plus
- 2.0% of Average Pay times service over 10 years.

For participants hired on or after November 1, 1996:

- 2.0% of Average Pay times service.

For all participants, there is a minimum benefit of 1.0% of Average Pay plus \$25 for each year of service

### **Involuntary Retirement**

#### ***Eligibility***

Retired involuntarily for reasons other than misconduct or delinquency with:

- 25 years of total service, including 5 years of school service; or
- Age 50 with 20 years of total service, including 5 years of school service.

#### ***Benefit Amount***

Voluntary Retirement benefit reduced 1/6% per month (2% per year) that date of retirement precedes age 55.

### **Disability Retirement Benefit**

#### ***Eligibility***

5 years of school service and a physical or mental disability that prevents the member from performing his/her job.

#### ***Benefit Amount***

Voluntary Retirement benefit subject to a minimum of the lesser of 40% of Average Pay and the benefit that the member would receive projecting service to age 60.

### **Lump Sum Death Benefit**

#### ***Eligibility***

Death before completion of 18 months of school service or death without an eligible spouse, child, or parent.

#### ***Benefit Amount***

Refund of Member contributions, without interest.

### **Installment Benefit Payable upon Death – Spouse Only**

#### ***Eligibility***

Death before retirement and married for at least two years or have a child by the marriage.

***Benefit Amount***

55% of the Voluntary Retirement benefit subject to the minimums specified in the Disability Retirement Benefit.

**Installment Benefit Payable upon Death – Spouse and Dependent Children**

***Eligibility***

For the spouse, as described above; for the children, unmarried and under 18, 22 if full-time student, or any child dependent because of a disability incurred before age 18. Death does not have to occur before retirement for the children's benefits.

***Benefit Amount***

Spouse benefit as described above, plus a benefit per child (payable until the children are no longer eligible) equal to the smallest of:

- 60% of Average Pay divided by the number of eligible children;
- \$6,024\* (if hired before January 1, 1980), \$5,820\* (if hired between January 1, 1980 and October 31, 1996), or \$5,700\* (if hired on or after November 1, 1996) per child; or
- \$18,072\* (if hired before January 1, 1980), \$17,460\* (if hired between January 1, 1980 and October 31, 1996), or \$17,460\* (if hired on or after November 1, 1996) divided by the number of children.

**Installment Benefit Payable upon Death – Dependent Children Only**

***Eligibility***

Same as the children's benefit above.

***Benefit Amount***

Per child (payable until the children are no longer eligible), the smallest of:

- 75% of Average Pay divided by the number of eligible children;
- \$7,356\* (if hired before January 1, 1980), \$7,092\* (if hired between January 1, 1980 and October 31, 1996), or \$6,912\* (if hired on or after November 1, 1996) per child; or
- \$22,068\* (if hired before January 1, 1980), \$21,276\* (if hired between January 1, 1980 and October 31, 1996), or \$20,736\* (if hired on or after November 1, 1996) divided by the number of children

**Installment Benefit Payable upon Death – Surviving Parents Only**

***Eligibility***

Death before retirement and no eligible spouse or children, and parents receive at least one-half of their total income from member.

***Benefit Amount***

Spouse benefit as described above.

## **Deferred Vested Benefit**

### ***Eligibility***

5 years of school service.

### ***Benefit Amount***

Voluntary Retirement Benefit beginning at age 62.

## **Form of Payment Options**

### ***Normal Form of Payment***

Unreduced Annuity.

### ***Reduced Annuity with a Maximum Survivor Annuity (to Spouse)***

The original benefit is reduced by 2.5% of annual pension up to \$3,600, plus 10% of any amount over \$3,600. Spouse will receive 55% of Unreduced Annuity.

### ***Reduced Annuity with a Partial Survivor Annuity (to Spouse)***

An annuity with a benefit payable to the spouse of between \$1 up to any amount less than 55% of the Unreduced Annuity. The original benefit is reduced by dividing the amount of the survivor's annuity by 55%, then reducing the original benefit by 2.5% of this amount up to \$3,600, plus 10% of any amount over \$3,600.

### ***Reduced Annuity with a Survivor Annuity to a Person with an Insurable Interest***

A joint and 55% survivor annuity with the original benefit reduced 10% plus an additional 5% for each full 5 years, up to 25 years, the survivor is younger, with a total reduction of 40% for any survivor who is 25 or more years younger.

### ***Reduced Annuity with a Life Benefit***

Benefits may be reduced and the reduction is used to purchase life insurance.

## **Cost-of-Living Adjustments**

All participants receive an increase each March based on the annual change in the Consumer Price Index (all items – U.S. City average) from December to December. The annual increase is limited to 3.0% for members hired on or after November 1, 1996.

\* Survivor benefit amounts are as of March, 2009, and are subject to annual inflation adjustments.

## Retirement Program for District of Columbia Police Officers and Fire Fighters

### Membership

#### *Eligibility*

All police officers and firefighters of the District of Columbia automatically become members on their date of employment. Police Cadets are not eligible.

#### *Member Contributions*

Members hired before November 10, 1996 are required to contribute 7% of annual salary, including any differential for special assignment, but excluding overtime, longevity, holiday, or military pay. Members hired on or after November 10, 1996 contribute 8% of annual salary, including any differential for special assignment, but excluding overtime, holiday, or military pay.

Interest is not credited to each member's accumulated contributions.

### Service

#### *Departmental Service*

Each full year and additional months of employment with either the Metropolitan Police Force or the D.C. Fire Department.

#### *Credited Service*

Service granted or purchased in addition to departmental service.

#### *Average Pay*

For those hired before February 15, 1980, basic pay for the highest 12 consecutive months. For those hired on or after February 15, 1980, basic pay for the highest 36 consecutive months divided by three.

#### **Longevity Pay (Police Only)**

Members who complete 25 years of active service prior to retirement are entitled to an additional 15% of their basic compensation. Members who complete 30 years of active service are entitled to an additional 20% of their basic pay.

### Normal Retirement Benefit

#### *Eligibility*

For participants hired before November 10, 1996:

- Age 60; or
- Age 50 with 25 years of departmental service; or
- No age requirement with 20 years of service (only if hired before February 15, 1980.)

For participants hired on or after November 10, 1996:

- Age 60; or

- No age requirement with 25 years of service.

***Benefit Amount***

For participants hired before November 10, 1996:

- 2.5% of Average Pay times departmental service up to 25 years (20 years if hired before February 15, 1980), plus
- 3.0% of Average Pay times departmental service over 25 (or 20) years, plus
- 2.5% of Average Pay times credited service.

For participants hired on or after November 10, 1996:

- 2.5% of Average Pay times total service.

For all participants, there is a maximum benefit of 80% of Average Pay.

**Service-Related Disability Retirement Benefit**

***Eligibility***

Disabled as a result of an illness or injury in the line of duty.

***Benefit Amount***

For participants hired before February 15, 1980, 2.5% of Average Pay times total years of service, subject to a minimum benefit of 66-2/3% of Average Pay and subject to a maximum benefit of 70% of Average Pay.

For participants hired on or after February 15, 1980, 70% of final pay times percentage of disability, subject to a minimum benefit of 40% of final pay.

**Non-Service-Related Disability Retirement Benefit**

***Eligibility***

5 years of departmental service and a physical or mental disability that prevents the member from performing his/her job.

***Benefit Amount***

For participants hired before February 15, 1980, 2.0% of Average Pay times total years of service, subject to a minimum benefit of 40% of average pay and subject to a maximum benefit of 70% of average pay.

For participants hired on or after February 15, 1980, 70% of final pay times percentage of disability, subject to a minimum benefit of 30% of final pay.

**Lump Sum Death Benefit**

***Eligibility***

Death occurring in the line of duty, not resulting from willful misconduct, an intention to bring about his/her own death, or drunkenness.

***Benefit Amount***

\$50,000.

**Installment Benefit Payable upon Death – Spouse Only, Member Killed Not in Line of Duty after December 29, 1993**

***Eligibility***

Death and, if retired, married for at least one year or have a child by the marriage.

***Benefit Amount***

40% of the greater of Average Pay and the salary for step 6 salary class 1 of the D.C. Police and Fireman’s Salary Act in effect, adjusted for cost-of-living increases if death occurs after retirement. The benefit cannot exceed the rate of pay at death (or retirement if death occurs after retirement.)

**Installment Benefit Payable upon Death – Spouse Only, Member Killed in Line of Duty after December 29, 1993**

***Eligibility***

Death (killed in line of duty).

***Benefit Amount***

100% of final pay.

**Installment Benefit Payable upon Death – Spouse and Dependent Children**

***Eligibility***

For the spouse, as described above; for the children, unmarried and under 18, 22 if full-time student, or any child dependent because of a disability incurred before age 18. Death does not have to occur before retirement for the children’s benefits.

***Benefit Amount***

Spouse benefit as described above, plus, provided death does not occur in the line of duty, a benefit per child (payable until the children are no longer eligible) equal to the smallest of:

- 60% of Average Pay divided by the number of eligible children;
- \$3,552\* (\$3,480 if hired on or after November 1, 1996); or
- \$10,656\* (\$10,490 if hired on or after November 1, 1996) divided by the number of children

**Installment Benefit Payable upon Death – Dependent Children Only**

***Eligibility***

Same as the children’s benefit above.

***Benefit Amount***

Per child, 75% of Average Pay divided by the number of eligible children, adjusted for cost-of-living increases.

## **Refund of Contributions**

### ***Eligibility***

Death before retirement and no eligible spouse or children.

### ***Benefit Amount***

All Member contributions will be refunded to a named, or statutorily-designated if none named, beneficiary.

## **Deferred Vested Benefit**

### ***Eligibility***

5 years of departmental service.

### ***Benefit Amount***

Normal Retirement Benefit beginning at age 55.

## **Form of Payment Options**

### ***Normal Form of Payment***

Single Life Annuity.

### ***Additional Survivor Benefit***

The original benefit is reduced 10%. This 10% amount is reduced by 5% for each full 5 years the survivor is younger (but not more than 40%) and is added to the survivor's benefit.

## **Cost-of-Living Adjustments**

Employees (not beneficiaries) who retired prior to February 15, 1980, receive equalization pay, which is defined as the percentage increase as active employees' salary increases.

All other retired participants and their survivors receive an increase each March based on the annual change in the Consumer Price Index (All Urban Consumers) from December to December. The annual increase is limited to a maximum of 3% for members hired on or after November 10, 1996.

\* Survivor benefit amounts are as of March, 2009, and are subject to annual inflation adjustments.

## 1.2: Participant Data Summary as of July 1, 2009

Active Participants	Teachers	Police Officers	Fire Fighters
Number	4,601	4,014	1,774
Average Age	45.5	39.8	37.9
Average Service	11.2	13.2	11.9
Average Pay	\$69,412	\$71,202	\$65,908

Inactive Participants	Teachers		Police Officers		Fire Fighters	
Service Retired	District	Total <sup>2</sup>	District	Total <sup>3</sup>	District	Total <sup>4</sup>
Number	2,581	5,167	696	3,156	261	974
Average Age	66.1	72.5	57.8	64.5	58.1	66.9
Average Benefit	\$11,640	\$41,316	\$15,342	\$51,962	\$19,854	\$61,343
<b>Beneficiaries</b>						
Number	84	423	148	1,179	48	463
Average Age	52.6	71.0	31.2	67.7	29.1	71.8
Average Benefit	\$4,542	\$18,442	\$6,310	\$26,155	\$9,553	\$27,841
<b>Disabled</b>						
Number	105	416	242	1,186	54	463
Average Age	60.1	71.8	47.6	64.9	52.2	70.4
Average Benefit	\$13,838	\$27,955	\$18,093	\$41,206	\$14,456	\$47,611
<b>Terminated Vested</b>						
Number	617	938	75	83	30	30
Average Age	49.1	55.4	44.4	46.6	46.2	46.2
Average Benefit	\$6,157	\$9,018	\$10,808	\$19,407	\$11,639	\$23,087

<sup>2</sup> Federal and District payments combined.

<sup>3</sup> Federal and District payments combined.

<sup>4</sup> Federal and District payments combined.

### Changes in Plan Membership: All Members

	Actives*	Non-Vested Terminations Due Refunds	Vested Terminations	Disabled	Retired	Beneficiaries**	Total Participants
July 1, 2008	<b>10,482</b>	<b>4,097</b>	<b>954</b>	<b>2,131</b>	<b>9,045</b>	<b>2,018</b>	<b>28,727</b>
New Entrants	1,023	-	-	-	-	-	1,023
Rehires	132	51	30	2	-	-	49
Disabilities	12	-	1	13	-	-	-
Retirements	439	-	24	2	465	-	-
Vested Terminations	174	-	174	-	-	-	-
Died, With Beneficiaries' Benefit Payable	3	-	-	35	69	115	8
Died, Without Beneficiary, and Other Terminations	392	384	2	43	150	-	203
Transfers	2	-	-	-	-	-	2
Refund of Contributions	228	87	38	-	-	-	353
Beneficiary Deaths	-	-	-	-	-	102	102
Domestic Relations Orders	-	-	-	-	-	-	-
Data Corrections/Not Reported	-	9	18	3	6	34	52
July 1, 2009	<b>10,389</b>	<b>4,334</b>	<b>1,051</b>	<b>2,065</b>	<b>9,297</b>	<b>2,065</b>	<b>29,201</b>

\* Includes teachers assumed to be on leave of absence.

\*\*Domestic Relations Orders are excluded from count.

### Changes in Plan Membership: Teachers

	Actives*	Non-Vested Terminations Due Refunds	Vested Terminations	Disabled	Retired	Beneficiaries**	Total Participants
July 1, 2008	4,821	3,792	876	428	4,912	431	15,260
New Entrants	716	-	-	-	-	-	716
Rehires	107	(43)	(27)	-	-	-	37
Disabilities	(8)	-	(1)	9	-	-	0
Retirements	(365)	-	(21)	(2)	388	-	0
Vested Terminations	(145)	-	145	-	-	-	0
Died, With Beneficiaries' Benefit Payable	(1)	-	-	(1)	(13)	15	0
Died, Without Beneficiary, and Other Terminations	(359)	352	(2)	(19)	(125)	-	( 153)
Transfers	(1)	-	-	-	-	-	( 1)
Refund of Contributions	(164)	(76)	(36)	-	-	-	( 276)
Beneficiary Deaths	-	-	-	-	-	(32)	( 32)
Domestic Relations Orders	-	-	-	-	-	-	0
Data Corrections/Not Reported	-	(7)	4	1	5	9	12
July 1, 2009	4,601	4,018	938	416	5,167	423	15,563

\* Includes members assumed to be on leave of absence.

\*\*Domestic Relations Orders are excluded from count.

### Changes in Plan Membership: Police Officers

	Actives	Non-Vested Terminations Due Refunds	Vested Terminations	Disabled	Retired	Benefic- iaries*	Total Participants
July 1, 2008	<b>3,928</b>	<b>245</b>	<b>61</b>	<b>1,229</b>	<b>3,144</b>	<b>1,150</b>	<b>9,757</b>
New Entrants	223	-	-	-	-	-	223
Rehires	23	(7)	(3)	(2)	-	-	11
Disabilities	(3)	-	-	3	-	-	0
Retirements	(63)	-	(3)	-	66	-	0
Vested Terminations	(17)	-	17	-	-	-	0
Died, With Beneficiaries' Benefit Payable	(1)	-	-	(29)	(34)	68	4
Died, Without Beneficiary, and Other Terminations	(20)	19	-	(17)	(21)	-	( 39)
Transfers	1	-	-	-	-	-	1
Refund of Contributions	(57)	(8)	(2)	-	-	-	( 67)
Beneficiary Deaths	-	-	-	-	-	(52)	( 52)
Domestic Relations Orders	-	-	-	-	-	-	0
Data Corrections/Not Reported	-	(2)	13	2	1	13	27
July 1, 2009	<b>4,014</b>	<b>247</b>	<b>83</b>	<b>1,186</b>	<b>3,156</b>	<b>1,179</b>	<b>9,865</b>

\*Domestic Relations Orders are excluded from count.

### Changes in Plan Membership: Fire Fighters

	Actives	Non-Vested Terminations Due Refunds	Vested Terminations	Disabled	Retired	Benefic- iaries*	Total Participants
July 1, 2008	<b>1,733</b>	<b>60</b>	<b>17</b>	<b>474</b>	<b>989</b>	<b>437</b>	<b>3,710</b>
New Entrants	84	-	-	-	-	-	84
Rehires	2	(1)	-	-	-	-	1
Disabilities	(1)	-	-	1	-	-	0
Retirements	(11)	-	-	-	11	-	0
Vested Terminations	(12)	-	12	-	-	-	0
Died, With Beneficiaries' Benefit Payable	(1)	-	-	(5)	(22)	32	4
Died, Without Beneficiary, and Other Terminations	(13)	13	-	(7)	(4)	-	( 11)
Transfers	-	-	-	-	-	-	0
Refund of Contributions	(7)	(3)	-	-	-	-	( 10)
Beneficiary Deaths	-	-	-	-	-	(18)	( 18)
Domestic Relations Orders	-	-	-	-	-	-	0
Data Corrections/Not Reported	-	-	1	-	-	12	13
July 1, 2009	<b>1,774</b>	<b>69</b>	<b>30</b>	<b>463</b>	<b>974</b>	<b>463</b>	<b>3,773</b>

\*Domestic Relations Orders are excluded from count.

### 1.3: Actuarial Methods and Assumptions

#### Actuarial Funding Method

The funding method required by the Replacement Plan Act is commonly known as the Aggregate funding method. Under this method, the District must contribute the level percent of pay that – combined with the actuarial value of assets, expected investment earnings, and future employee contributions – will pay for the benefits of the current participants by the time the current workforce leaves employment.

#### Actuarial Assumptions

The demographic assumptions used for this valuation were developed during the experience study which covered the period from October 1, 2002 through September 30, 2006.

Valuation Date	All assets and liabilities are computed as of October 1, 2009. Demographic information was collected as of June 30, 2009.
Rate of Return	The annual rate of return on all Fund assets is assumed to be 7.00%, net of all expenses.
Cost of Living	The cost of living as measured by the Consumer Price Index (CPI) will increase at the rate of 4.25% per year <sup>5</sup> .
Increases in Pay	Assumed pay increases for active Members consist of increases due to cost of living adjustments and promotion and increases due to longevity and retention incentives. Cost of living increases are assumed to result in a general wage increase of 4.75% for all employees. Sample rates for the increases due to promotions are given in the table below.

Service	Teachers	Police	Fire
0	4.0%	5.0%	2.5%
5	4.0%	3.6%	2.5%
10	3.0%	2.6%	2.5%
15	0.5%	2.3%	2.5%
20	0.2%	2.5%	2.5%
30	0.2%	0.5%	2.5%

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<sup>5</sup> The Board elected to use an inflation assumption that is slightly more conservative than the actuary's recommendation.

Increases in Pay

Allowances have also been made for special increases in Compensation prior to termination or retirement. For Police Officers, an additional increase of 5% is given for the Base Retention Differential after 20 years of service. Police Officers are assumed to receive a longevity increase of 5% of step 1 pay after 15 years of service, and additional increases of 5% after 20, 25, and 30 years of service. These are approximated by increases of 3.4% to 3.6%.

Longevity pay increases are not included in Officers pensionable compensation unless the Member has at least 25 years of service. Fire Fighters are assumed to receive retention incentives of 5%, 10%, 15%, and 20% applied to individual base pay after 15, 20, 25, and 30 years of service, respectively.

Active and Retiree Mortality

Rates of mortality for retired Teachers are given by the 1994 Uninsured Pension (UP94) Tables (sex distinct) with generational improvement using Projection Scale AA, projected to the valuation date.

Rates of mortality for retired Police Officers and Fire Fighters are given by the 1994 Uninsured Pension (UP94) Tables (sex distinct) with generational improvement using Projection Scale AA, with a two-year age set forward for retirees and a three-year age set forward for active members.

Disabled Member Mortality

Rates of mortality among disabled Members are specified for male and female members; separate tables are used for Teachers and for Public Safety disabled members. Sample rates are as follows:

Age	Teachers		Police/Fire	
	Male	Female	Male	Female
30	2.4000%	2.4000%	0.9033%	0.5616%
40	2.4000%	2.4000%	0.9033%	0.5616%
50	2.4545%	2.4000%	0.9033%	0.5616%
60	2.5910%	2.4000%	1.3029%	0.8310%
70	3.8006%	2.4000%	2.6405%	1.7147%
80	7.2111%	4.1413%	6.4974%	4.2282%
90	13.1554%	10.0013%	15.6801%	12.2128%

Service Retirement

Retirement is assumed to occur in accordance with the tables below.

Age	Teachers	
	Normal Retirement	Involuntary Retirement
50 -54	10%	0.5%
55	35%	8%
56-59	25%	8%
60-62	25%	N/A
63-70	20%	N/A
71-74	25%	N/A
75+	100%	N/A

Age	Police	Service	Fire
40-49	15%	25-29	12%
50-59	22%	30-34	25%
60+	100%	35+	35% until age 60, then 100%

It is assumed that 50% of Police members will retire after 31 years of service.

Disability

Separate rates of disability are assumed among Teachers, Police Officers and Fire Fighters. For Police Officers and Fire Fighters, it is assumed that 75% of the disabilities are due to accidents in the line of duty. Below are sample rates:

Age	Police		Fire	Teachers
	Male	Female		
25	0.2192%	0.4383%	0.1447%	0.0300%
30	0.2875%	0.5750%	0.1898%	0.0572%
35	0.4250%	0.8500%	0.2805%	0.0932%
40	0.6250%	1.2500%	0.4125%	0.1292%
45	0.9817%	1.9633%	0.6479%	0.2040%
50	1.6250%	3.2500%	1.0725%	0.3212%
55	2.8875%	5.7750%	1.9058%	0.5520%
60	4.1250%	8.2500%	2.7225%	0.5700%

For all Police Officer and Fire Fighter disabilities, the “% of disability” is assumed to be 100%.

Withdrawal

Separate rates of withdrawal are assumed among Teachers, Police Officers, and Fire Fighters. Withdrawal rates are not applied to Members eligible for service retirement.

Age	Police			
	<3 Years Service Male	<3 Years Service Female	3+ Years Service Male	3+ Years Service Female
20-29	10.0%	8.0%	6.00%	2.50%
30-34	10.0%	8.0%	3.50%	2.00%
35-39	10.0%	8.0%	2.00%	2.00%
40-44	10.0%	8.0%	1.75%	1.75%
45-49	10.0%	8.0%	1.50%	1.50%
50-54	10.0%	8.0%	1.25%	1.25%
55-59	10.0%	8.0%	1.00%	1.00%
60+	10.0%	8.0%	0.00%	0.00%

Age	Fire	
	<2 Years Service	2+ Years Service
20-24	9.0%	2.80%
25-29	9.0%	1.87%
30-34	9.0%	1.24%
35-39	9.0%	0.83%
40-44	9.0%	0.55%
45-49	9.0%	0.37%
50-54	9.0%	0.25%
55+	9.0%	0.00%

Age	Teachers		
	0-3 Years Service	4-9 Years Service	10+ Years Service
20-24	25.00%	18.00%	N/A
25-29	23.50%	16.00%	N/A
30-34	22.00%	14.00%	3.50%
35-39	20.50%	12.00%	3.50%
40-44	19.00%	10.00%	3.50%
45-49	17.50%	8.00%	3.50%
50-54	16.00%	8.00%	3.50%
55-59	14.50%	8.00%	3.50%
60-64	13.00%	8.00%	3.50%
65+	0.00%	0.00%	0.00%

For all members with less than 5 years of service, terminations are assumed to result in the withdrawal of contributions, with no further benefits payable. For those terminated with at least 5 years of service, 20% of Police/Fire members and 65% of Teachers are assumed to receive a deferred vested benefit, with the remaining members assumed to receive a refund of accumulated contributions.

#### Family Composition

64% of Teachers and 80% of Police Officers and Fire Fighters are assumed to be married. Male spouses are assumed to be three years older than their wives. Active employees are assumed to have one dependent child aged 10.

To value the pre-retirement death benefit for Police Officers and Fire Fighters, the benefit form for all retirements (normal or disabled) is assumed to be a 67.8% Joint and Survivor annuity for all participants (based on 40% of average pay survivor benefits). One-fourth of all Police Officer and Fire Fighter active deaths are assumed to occur in the line of duty.

#### Actuarial Value of Plan Assets

The actuarial value of District assets is a modified market-related value. The actuarial value of assets method approved by the Board is defined as the market value of assets, with investment gains and losses recognized over 7 years, constrained to a 80% to 120% corridor around market value. There is then a final adjustment made for the effect of the adjustment pursuant to D.C. Code §1-907.02(c). This adjustment is explained and developed in Section 3.5.

The detailed calculation of the actuarial value of District assets is shown in Section 2.2.

#### Changes in Actuarial Assumptions

There have been no changes in actuarial assumptions since the prior valuation.

## Participant Data

Data on active and inactive Members and their beneficiaries as of the valuation date was supplied by the D.C. Office of Pay and Retirement Services and the U.S. Department of the Treasury, on electronic media. Member data was neither verified nor audited, but was reviewed for reasonableness.

The following assumptions were made with respect to information provided by the District of Columbia:

- Individual data for charter school teachers with Plan benefits is not available. To account for this group, active liabilities and payroll were increased by 1.5%
- The data is incomplete with respect to former members who have a deferred vested benefit. Thus, benefits for these individuals are estimated based on their service and pay history as available.
- Benefit Service has been determined based on employee contribution history.
- Benefit Splits between Federal and District have been estimated for terminated vested participants with missing benefit amounts based on employee contribution history.
- It is assumed that all Fire and Police members with prior military service will purchase this service. To account for this, an average amount of prior service of 0.4 years based on a prior study is assumed for all Police and Fire members which determined this to be the average amount of military service for Plan members.

**Section 2:**  
**Asset Information**

## 2.1: Current Value of District Assets as of October 1, 2009

The allocation of benefit payments and investment income between police and fire are approximations based on the most recent information available from the District of Columbia and the D.C. Retirement Board.

	\$ millions	Teachers	Police	Fire	Police & Fire	Total Fund
(1)	Current Value of Assets as of October 1, 2008	\$1,253.5	\$1,790.7	\$690.5	\$2,481.2	\$3,734.7
(2)	FY 2009 District Contributions	\$0.0	\$71.5	\$34.5	\$ 106.0	\$ 106.0
(3)	FY 2009 Employee Contributions	\$24.6	\$20.1	\$8.3	\$ 28.4	\$ 53.0
(4)	FY 2009 Actual Benefit Payments	\$(38.4)	\$(18.4)	\$(7.5)	\$(25.9)	\$(64.3)
(5)	FY 2009 Investment Earnings	\$(35.3)	\$(34.2)	\$(16.9)	\$(51.1)	\$(86.4)
(6)	Actual Current Value of Assets as of October 1, 2009	\$1,204.4	\$1,829.7	\$708.9	\$2,538.6	\$3,743.0
(7)	Benefits Payable for FY 2009	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
(8)	Final Current Value of Assets as of October 1, 2009	\$1,204.4	\$1,829.7	\$708.9	\$2,538.6	\$3,743.0
(9)	Approximate Rate of Return					(2.3%)

## 2.2: Actuarial Value of District Assets as of October 1, 2009

The actuarial value of assets method reflects a seven year recognition of investment gains and losses. Also by policy, the actuarial value of assets can be no greater than 120% and no less than 80% of the market value. There is a final adjustment made for the effect of the adjustment pursuant to D.C. Code §1-908, to adjust for differences in actual salaries versus projected salaries.

	\$ millions	Teachers	Police	Fire	Police & Fire	Total Fund
(1)	Market (Current) Value of Assets as of October 1, 2008	\$1,253.5	\$1,790.7	\$690.5	\$ 2,481.2	\$ 3,734.7
(2)	FY 2009 District Contributions	\$0.0	\$71.5	\$34.5	\$ 106.0	\$ 106.0
(3)	FY 2009 Employee Contributions	\$24.6	\$20.1	\$8.3	\$ 28.4	\$ 53.0
(4)	FY 2009 Benefit Payments (including refunds)	\$(38.4)	\$(18.4)	\$(7.5)	\$(25.9)	\$(64.3)
(5)	FY 2009 Expected Investment Earnings	\$ 87.3	\$130.0	\$50.6	\$ 180.6	\$ 267.9
(6)	Expected Market Value of Assets as of October 1, 2009	\$1,327.0	\$1,993.9	\$776.4	\$ 2,770.3	\$ 4,097.3
(7)	Actual Market Value of Assets as of October 1, 2009	\$1,204.4	\$1,829.7	\$708.9	\$ 2,538.6	\$ 3,743.0
(8)	Investment Gain/(Loss) [(7) – (6)]	(122.6)	(164.2)	(67.5)	(231.7)	(354.3)
	Deferral Factor <sup>6</sup>	6/7	6/7	6/7		
(9)	Investment Gain/(Loss) from Prior Year	(375.6)	(527.8)	(203.5)	(731.3)	(1,106.9)
	Deferral Factor <sup>1</sup>	5/7	5/7	5/7		
(10)	Preliminary Actuarial Value of Assets as of October 1, 2009 [(7), less (8) & (9) times respective deferral factors]	\$ 1,577.8	\$ 2,347.4	\$ 912.1	\$ 3,259.6	\$ 4,837.3
(11)	Actuarial Value of Assets as of October 1, 2009 with corridor [(10), no less than 80% of (7), and no greater than 120% of (7)]	\$ 1,445.3	\$ 2,195.6	\$ 850.7	\$ 3,046.3	\$ 4,491.6
(12)	Present Value of D.C. Code §1-908 Adjustment	\$(0.3)	\$2.1	\$0.0	\$2.1	\$1.8
(13)	Final Actuarial Value of Assets as of October 1, 2009 [(11) + (12)]	\$1,445.0	\$2,197.7	\$850.7	\$ 3,048.4	\$ 4,493.4
(14)	Approximate Rate of Return (on AVA)					0.4%

<sup>6</sup> Deferral Factors represent portion of gain or loss to be deferred according to seven year smoothing. Factors reflect a full recognition of all investment gains and losses prior to October 1, 2007

**Section 3:**  
**Actuarial Computations**

### 3.1: Computation of Fiscal Year 2011 District Payment

This table shows the development of the fiscal year 2011 District payment. It represents the values used in the Required Actuarial Certification under D.C. Code §1-907.

	\$ millions	Teachers	Police	Fire	Total
(1)	Present Value of Future District Benefits	\$1,567.5	\$3,411.8	\$1,552.1	\$6,531.4
(2)	Actuarial Value of Assets (Section 2.2)	\$1,445.0	\$2,197.7	\$850.7	\$4,493.4
(3)	Present Value of Future Employee Contributions	\$195.1	\$252.1	\$136.0	\$ 583.2
(4)	Present Value of Future Normal Costs [(1) – (2) – (3)]	\$(72.6)	\$ 962.0	\$ 565.4	\$1,454.8
(5)	Present Value Future Payroll	\$2,534.9	\$3,433.4	\$1,833.9	\$7,802.2
(6)	Normal Contribution Rate [(4) ÷ (5), not less than 0%]	0.0%	28.0%	30.8%	n/a
(7)	Projected FY 2011 Payroll	\$352.6	\$325.5	\$131.4	\$ 809.5
(8)	Projected FY 2011 Payment Before §1-907.02(c) [(6) x (7)]	\$0.0	\$91.1	\$40.5	\$ 131.6
(9)	Applicable D.C. Code §1-907.02(c) Adjustment (Section 3.3)	\$0.0	\$(2.4)	\$(2.0)	\$(4.4)
(10)	FY 2011 Payment [(8) + (9), not less than \$0]	\$0.0	\$88.7	\$38.5	\$ 127.2

### 3.2: Computation of Gain/Loss from Prior Valuation Teachers' Retirement Plan

	\$ millions	Prior Year Results	Continuing Members Only		New Entrants	Investment Experience
			Demographic Experience	Salary Experience		
(1)	Present Value of Future District Benefits	\$1,599.9	\$1,551.6	\$1,509.4	\$1,567.5	\$1,567.5
(2)	Actuarial Value of Assets	\$1,447.6	\$1,534.6	\$1,534.6	\$1,534.6	\$1,445.0
(3)	Present Value of Future Employee Contributions	<u>\$191.2</u>	<u>\$177.2</u>	<u>\$169.8</u>	<u>\$195.1</u>	<u>\$195.1</u>
(4)	Present Value of Future Normal Costs (not less than \$0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
(5)	Present Value Future Payroll	\$2,600.3	\$2,303.2	\$2,206.7	\$2,534.9	\$2,534.9
(6)	Normal Contribution Rate (not less than 0%)	0.0%	0.0%	0.0%	0.0%	0.0%
(7)	Projected Payroll	\$376.2	\$318.4	\$305.0	\$352.6	\$352.6
(8)	Projected Contribution before Adjustments	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
	Change in Contribution Rate		0.0%	0.0%	0.0%	0.0%
	Change in Contribution Amount		\$0.0	\$0.0	\$0.0	\$0.0

## Police Officers and Fire Fighters' Retirement Plan

	\$ millions	Prior Year Results	Continuing Members Only		New Entrants	Investment Experience
			Demographic Experience	Salary Experience		
(1)	Present Value of Future District Benefits	\$4,757.4	\$5,044.3	\$4,809.4	\$4,963.8	\$4,963.8
(2)	Actuarial Value of Assets	\$2,932.1	\$3,252.8	\$3,252.8	\$3,252.8	\$3,048.4
(3)	Present Value of Future Employee Contributions	<u>\$373.4</u>	<u>\$380.6</u>	<u>\$363.1</u>	<u>\$388.1</u>	<u>\$388.1</u>
(4)	Present Value of Future Normal Costs	\$1,451.9	\$1,410.9	\$1,193.5	\$1,322.9	\$1,527.3
(5)	Present Value Future Payroll	\$5,090.1	\$5,183.3	\$4,943.7	\$5,267.2	\$5,267.2
(6)	Normal Contribution Rate	28.5%	27.2%	24.1%	25.1%	29.0%
(7)	Projected Payroll	\$441.9	\$463.0	\$438.2	\$456.8	\$456.8
(8)	Projected Contribution before Adjustments	\$126.1	\$125.5	\$104.9	\$113.8	\$131.6
	Change in Contribution Rate		(1.3%)	(3.1%)	1.0%	3.9%
	Change in Contribution Amount		\$ (0.6)	\$ (20.6)	\$ 8.9	\$ 17.8

### 3.3: Summary of Principal Valuation Results Teachers Retirement Fund

<b>Participant Data</b>			
	<b>July 1, 2009</b>	<b>July 1, 2008</b>	<b>Change</b>
Active Members			
Hired Prior to November 1, 1996	1,682	2,076	(19.0)%
Hired After November 1, 1996	2,919	2,745	6.3%
Total Active	4,601	4,821	(4.6)%
Retired Members, Beneficiaries and Terminated Vested (Post June 30, 1997)	3,387	2,929	15.6%
Total Participants	7,988	7,750	3.1%
Annual Salaries of Active Members	\$336.6	\$359.1	(6.3)%
Annual Retirement Benefits for Retirees & Beneficiaries (Post June 30, 1997)	\$44.9	\$25.0	79.6%
<b>Assets and Liabilities</b>			
	<b>October 1, 2009</b>	<b>October 1, 2008</b>	
Present Value of Future District Benefits	\$1,567.5	\$1,599.9	(2.0)%
District Assets for Valuation Purposes (Actuarial Value)	1,445.0	1,447.6	(0.2)%
Present Value of Future Employee Contributions	195.1	191.2	2.0%
Present Value of Future District Contributions	0.0	0.0	0.0%
Present Value of Future Salaries	2,534.9	2,600.3	(2.5)%
Current Value of District Assets (Market Value)	1,204.4	1,253.5	(3.9)%
<b>Contribution Results</b>			
	<b>FY 2011</b>	<b>FY 2010</b>	<b>Change</b>
Normal Contribution Rate	0.0%	0.0%	0.0%
Projected Payroll	\$352.6	\$376.2	(6.3)%
District Payment Before Adjustment	\$0.0	\$0.0	0.0%
District Payment After Adjustment	\$0.0	\$0.0	0.0%

## Police Officers Retirement Fund

<b>Participant Data</b>			
(\$ millions)			
	<b>July 1, 2009</b>	<b>July 1, 2008</b>	<b>Change</b>
Active Members			
Hired Prior to February 15, 1980	43	58	(25.9)%
Hired Between February 15, 1980 and November 10, 1996	1,983	2,047	(3.1)%
Hired After November 10, 1996	1,988	1,823	9.1%
Total Active	4,014	3,928	2.2%
Retired Members, Beneficiaries and Terminated Vested (Post June 30, 1997)	1,161	1,070	8.5%
Total Participants	5,175	4,998	3.5%
Annual Salaries of Active Members	\$310.7	\$301.7	3.0%
Annual Retirement Benefits for Retirees & Beneficiaries (Post June 30, 1997)	\$20.4	\$16.0	27.5%
<b>Assets and Liabilities</b>			
	<b>October 1, 2009</b>	<b>October 1, 2008</b>	
Present Value of Future District Benefits	\$3,411.8	\$3,294.2	3.6%
District Assets for Valuation Purposes (Actuarial Value)	2,197.7	2,112.9	4.0%
Present Value of Future Employee Contributions	252.1	241.4	4.4%
Present Value of Future District Contributions	961.9	939.9	2.3%
Present Value of Future Salaries	3,433.4	3,301.9	4.0%
Current Value of District Assets (Market Value)	1,829.7	1,790.7	2.2%
<b>Contribution Results</b>			
	<b>FY 2011</b>	<b>FY 2010</b>	<b>Change</b>
Normal Contribution Rate	28.0%	28.5%	(1.8)%
Projected Payroll	\$325.5	\$316.1	3.0%
District Payment Before Adjustment	\$91.1	\$90.1	1.1%
District Payment After Adjustment	\$88.7	\$94.4	(6.0)%

## Fire Fighters Retirement Fund

<b>Participant Data</b>			
(\$ millions)			
	<b>July 1, 2009</b>	<b>July 1, 2008</b>	<b>Change</b>
Active Members			
Hired Prior to February 15, 1980	27	32	(15.6)%
Hired Between February 15, 1980 and November 10, 1996	729	761	(4.2)%
Hired After November 10, 1996	1,018	940	8.3%
Total Active	1,774	1,733	2.4%
Retired Members, Beneficiaries and Terminated Vested (Post June 30, 1997)	393	361	8.9%
Total Participants	2,167	2,094	3.5%
Annual Salaries of Active Members	\$125.4	\$120.1	4.4%
Annual Retirement Benefits for Retirees & Beneficiaries (Post June 30, 1997)	\$7.7	\$6.2	24.2%
<b>Assets and Liabilities</b>			
	<b>October 1, 2009</b>	<b>October 1, 2008</b>	
Present Value of Future District Benefits	\$1,552.1	\$1,463.2	6.1%
District Assets for Valuation Purposes (Actuarial Value)	850.7	819.2	3.8%
Present Value of Future Employee Contributions	135.9	132.0	3.0%
Present Value of Future District Contributions	565.4	512.1	10.4%
Present Value of Future Salaries	1,833.9	1,788.1	2.6%
Current Value of District Assets (Market Value)	708.9	690.5	2.7%
<b>Contribution Results</b>			
	<b>FY 2011</b>	<b>FY 2010</b>	<b>Change</b>
Normal Contribution Rate	30.8%	28.6%	7.7%
Projected Payroll	\$131.4	\$125.8	4.5%
District Payment Before Adjustment	40.5	36.0	12.5%
District Payment After Adjustment	38.5	37.9	1.6%

### 3.4: Accrued Liabilities under the Entry Age Normal Method

Statement No. 50 of the Governmental Accounting Standards Board (GASB) requires that plan sponsors that use the aggregate actuarial cost method disclose the funded status and present a multiyear schedule of funding progress using the entry age actuarial cost method as a surrogate. This is because the Aggregate method does not explicitly define an accrued liability.

The table below shows the present value of the future District benefits, as well as the value of the District benefits accrued based on past service computed under the Entry Age Normal method, which assigns total liabilities to past service (accrued liabilities), current service (normal cost), and future service (future normal costs). The actuarial assumptions (demographic and economic) used for the calculations in the table below are the same as were used to determine the required contributions. These assumptions are described in detail in Section 1.3, and summarized in Section 4.1 of this report.

<b>Present Value of Future District Benefits as of October 1, 2009</b>					
	(\$ millions)	Teachers	Police	Fire	Total
Active Present Value of Future District Benefits		\$1,045.0	\$3,067.0	\$1,424.0	\$5,536.0
Inactive Present Value of Future District Benefits					
Retirees		453.9	201.1	97.4	752.4
Disabled Employees		24.0	118.7	19.2	161.9
Beneficiaries		5.2	15.8	7.0	28.0
<u>Terminated</u>		<u>39.5</u>	<u>9.2</u>	<u>4.5</u>	<u>53.2</u>
Total Inactive		522.6	344.8	128.1	995.5
Total Present Value of Future District Benefits		\$1,567.5	\$3,411.8	\$1,552.1	\$6,531.4
<b>Accrued Liabilities for District Benefits as of October 1, 2009</b>					
Active Actuarial Accrued Liability		\$782.0	\$1,844.4	\$710.7	\$3,337.1
<u>Inactive Actuarial Accrued Liability</u>		<u>522.5</u>	<u>344.8</u>	<u>128.0</u>	<u>995.3</u>
Total Actuarial Accrued Liability (AAL)		\$1,304.5	\$2,189.2	\$838.7	\$4,332.4
Actuarial Value of Assets (AVA)		\$1,445.0	\$2,197.7	\$850.7	\$4,493.4
Market Value of Assets (MVA)		\$1,204.4	\$1,829.7	\$708.9	\$3,743.0
AVA Funding Ratio (AVA/AAL)		110.8%	100.4%	101.4%	103.7%
MVA Funding Ratio (MVA/AAL)		92.3%	83.6%	84.5%	86.4%

### 3.5: §1-907.02(c) Adjustment to the Fiscal Year 2011 District Payment

Beginning in fiscal year 2001, the District payment was adjusted pursuant to D.C. Code §1-907.02(c). This section stipulates that "... the enrolled actuary shall determine whether the amount appropriated for the applicable fiscal year resulted in an overpayment or a shortfall based upon the actual covered payroll."

The D.C. Code §1-907.02(c) adjustment to the fiscal year 2011 District payment is calculated by taking the actual fiscal year 2009 covered payroll for each employee class (which is provided by the District) and multiplying by the corresponding fiscal year 2009 normal contribution rates, which were determined as of October 1, 2007. This result is the fiscal year 2009 contribution that was required to be made by the District, based on actual payroll. The required contribution is then compared to the actual contribution that was paid by the District based on projected payroll. The difference between the required and actual contributions is the D.C. Code §1-907.02(c) adjustment. Any adjustment amount that cannot be used in a given year is carried forward to the next fiscal year.

	\$ millions	Teachers	Police	Fire
(1)	Actual FY 2009 Covered Payroll	\$307.1	\$283.0	\$116.2
(2)	FY 2009 Normal Contribution Rate	0.0%	25.3%	26.6%
(3)	Actual FY 2009 Contribution Required	\$0.0	\$71.6	\$30.9
(4)	Actual FY 2009 Contribution Paid	\$0.0	\$74.0	\$32.9
(5)	Preliminary D.C. Code §1-907.02(c) Adjustment to FY 2011 Payment [(3) – (4)]	\$0.0	\$(2.4)	\$(2.0)
(6)	FY 2010 Unrecognized Amount	\$(0.3)	\$0.0	\$0.0
(7)	Final D.C. Code §1-907.02(c) Adjustment to FY 2011 Payment [(5) + (6) if applicable]	\$(0.3)	\$(2.4)	\$(2.0)
(8)	Applicable Adjustment	\$0.0	\$(2.4)	\$(2.0)
(9)	Carryover Adjustment [(7)-(8)]	\$(0.3)	\$0.0	\$0.0

**Section 4:**  
**Disclosure Information**

## 4.1: Schedules of Funding Status and Employer Contributions Required Under GASB Statement No. 25

The Governmental Accounting Standards Board (GASB) Statements No. 25, 27, and 50 relate to the disclosure of pension liabilities shown in public employers' financial statements. For accounting periods beginning after June 15, 1996, information required under these statements must be prepared for public employers who seek compliance with generally accepted accounting principles (GAAP) on behalf of their public employee retirement systems.

GASB Statement No. 25 requires preparation of schedules of funding status and employer contributions, as well as the disclosure of plan provisions, actuarial assumptions, and other information.

The required schedules are shown below. In each case, we have relied upon information from our files and contained in the reports of other actuaries employed by the District in completing the schedules. While we have no reason to believe that this information is inaccurate, we strongly recommend that employer personnel verify the schedules below before they are included in the District's financial statements.

The District of Columbia Retirement Board uses the Aggregate actuarial cost method, which does not result in the calculation of an unfunded accrued liability. GASB Statement No. 50 requires funds using the Aggregate method to disclose funding status information based on Entry Age Normal (EAN) calculations. The numbers shown below have been determined based on the EAN method.

Schedule of Funding Status (\$ Millions)						
Actuarial Valuation Date	Actuarial Value of Assets	EAN Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability	Funded Ratio	Covered Payroll	Unfunded Liability as a Percent of Payroll
10/1/2006	\$3,482.6	\$3,565.0	\$82.4	97.7%	\$673.4	12.2%
10/1/2007	4,068.9	3,898.6	(170.3)	104.4%	771.2	(22.1%)
10/1/2008	4,379.7	4,276.8	(102.9)	102.4%	781.0	(13.2%)
10/1/2009	4,493.4	4,332.4	(161.0)	103.7%	772.7	(20.8%)

<b>Schedule of Employer Contributions (\$ millions)</b>						
	<b>Teachers' Retirement Fund</b>		<b>Police Officers and Fire Fighters' Retirement Fund</b>		<b>Total Fund</b>	
<b>Year Ending</b>	<b>Annual Required Contribution</b>	<b>Percentage Contributed</b>	<b>Annual Required Contribution</b>	<b>Percentage Contributed</b>	<b>Annual Required Contribution</b>	<b>Percentage Contributed</b>
9/30/1998	\$9.6	100%	\$47.7	100%	\$57.3	100%
9/30/1999	12.8	145%	35.1	100%	47.9	112%
9/30/2000	10.7	100%	39.9	100%	50.6	100%
9/30/2001	6.6	100%	47.0	100%	53.6	100%
9/30/2002	1.0	100%	61.4	100%	62.4	100%
9/30/2003	0.0	100%	69.8	100%	69.8	100%
9/30/2004	2.9	100%	95.5	100%	98.4	100%
9/30/2005	10.2	100%	106.2	100%	116.4	100%
9/30/2006	15.7	100%	116.7	100%	132.4	100%
9/30/2007	15.7	100%	130.3	100%	146.0	100%
9/30/2008	6.0	100%	137.0	100%	143.0	100%
9/30/2009	0.0	100%	106.0	100%	106.0	100%

The table below summarizes certain information about this actuarial report.

Valuation date	October 1, 2009
Actuarial cost method for Contributions	Aggregate Method
Actuarial cost method for Accrued Liabilities	Entry Age Normal
Amortization method	N/A
Remaining amortization period	N/A
Asset valuation method	Actuarial value, with seven year recognition of investment gains and losses, limited to an 80% - 120% corridor around market value.
Actuarial assumptions:	
Investment rate of return*	7.00%
Projected salary increases*	5.0% - 8.9% for Teachers, 4.8% - 10.0% for Police Officers and Fire Fighters
*Includes inflation at	4.25%
Cost of living adjustments	4.25% (COLA limited to 3.0% for those hired after November 1, 1996)

## **Appendix A:**

### **Entry Age Normal Calculations and Solvency Test**

## Contributions under the Entry Age Normal Cost Method

The Retirement Board has adopted the Entry Age Normal (EAN) method for the purpose of determining annual contributions to both the Teachers' Retirement Fund and the Police Officers' and Firefighters' Retirement Fund, pending legislative approval. The table below represents the contributions for fiscal year 2011 using this method.

These numbers are provided for information purposes only. While these contribution amounts are higher than those shown in the body of the report, this does not imply that calculations under the EAN method would always be higher than the current method. The method simply produces a different pattern of contributions.

(\$ millions)	Teachers	Police	Fire	Total
Employer Normal Cost Rate (% of Pay)	2.7%	28.3%	31.5%	17.7%
Total Accrued Liability	\$ 1,304.5	\$ 2,189.2	\$ 838.7	\$ 4,332.4
Actuarial Value of Assets	1,445.0	2,197.7	850.7	4,493.4
Unfunded Accrued Liability (UAL)	(\$ 140.5)	(\$ 8.5)	(\$ 12.0)	(\$ 161.0)
Amortization of UAL (level \$, 20 years)	(12.4)	(0.8)	(1.0)	(14.2)
Amortization Rate (% of Pay)	(3.7%)	(0.2%)	(0.8%)	(1.8%)
<b>Total Employer Contribution Rate (not less than 0%)</b>	<b>0.0%</b>	<b>28.0%</b>	<b>30.7%</b>	<b>15.8%</b>
Projected Payroll	\$ 352.6	\$ 325.5	\$ 131.4	\$ 809.4
<b>Contribution Amount</b>	<b>\$ 0.0</b>	<b>\$ 91.1</b>	<b>\$ 40.2</b>	<b>\$ 131.3</b>
\$1-907.02(c) Adjustment	0.0	(2.4)	(2.0)	(4.4)
District FY2011 Contribution	\$ 0.0	\$ 88.7	\$ 38.2	\$ 126.9

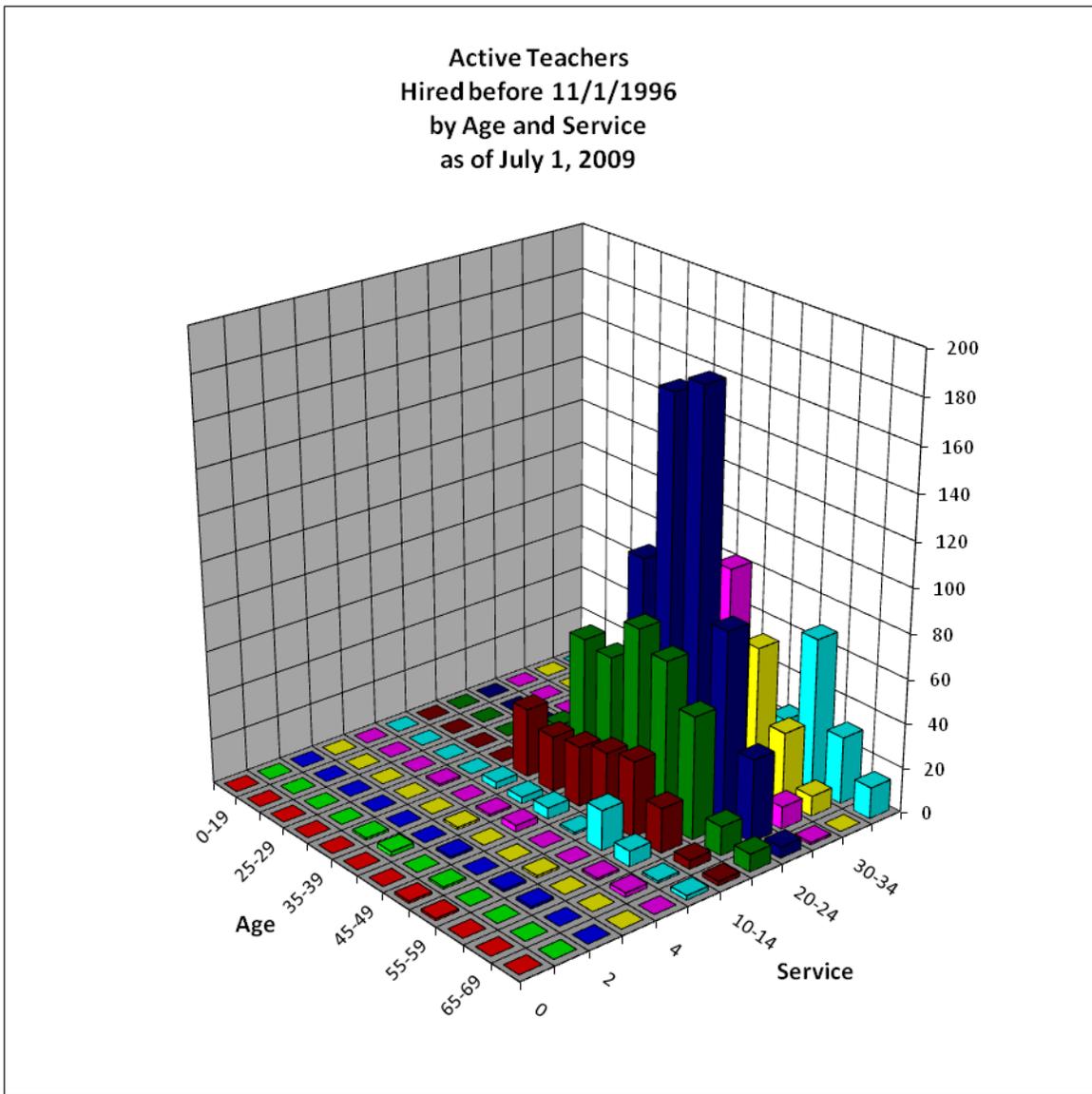
## Solvency Test

As part of the information required for financial reporting, a solvency test and history of such is shown in the table below. Information for prior to 10/1/2006 does not exist as no accrued liability was required to be determined for funding or disclosure purposes before this date.

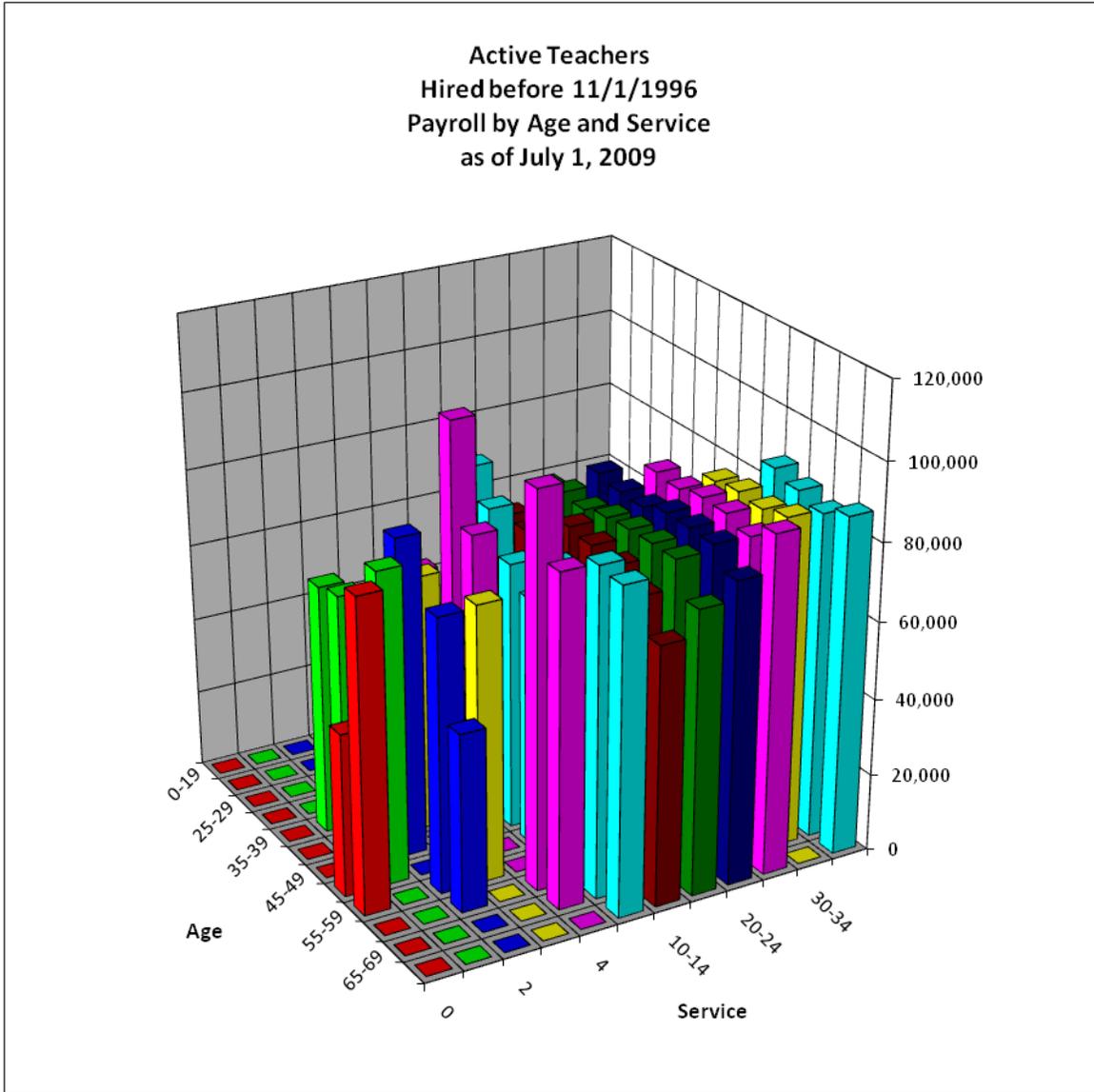
Valuation Date	Actuarial Accrued Liability				Market Value of Assets	Portion of Accrued Liabilities Covered by Assets		
	Active Member Contributions	Inactive Members	Active Members	Total		Active Member Contributions	Retirees and Beneficiaries	Active Members
10/1/2006	273,886,843	624,109,859	2,667,040,773	3,565,037,475	3,621,500,000	100%	100%	100%
10/1/2007	303,059,191	805,474,837	2,790,093,046	3,898,627,074	4,405,200,000	100%	100%	100%
10/1/2008	332,833,566	851,489,426	3,092,491,329	4,276,814,321	3,734,700,000	100%	100%	82%
10/1/2009	335,481,296	995,360,657	3,001,587,301	4,332,429,254	3,743,000,000	100%	100%	80%



**Appendix B:**  
**Detailed Demographic Information**



Service / Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35+	Total
0-19	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	0	0	0	0	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0	0	0	0	0
30-34	0	0	0	0	1	0	0	0	0	0	0	0	30
35-39	0	1	0	0	0	3	31	18	0	0	0	0	177
40-44	0	2	0	1	1	3	25	64	24	0	0	0	218
45-49	0	0	1	0	3	5	27	62	101	3	0	0	241
50-54	1	1	0	0	0	1	31	81	177	57	22	0	139
55-59	1	0	1	1	0	18	34	73	185	103	63	25	21
60-64	0	0	1	0	1	7	20	55	87	23	31	68	2
65-69	0	0	0	0	2	1	4	13	37	10	9	30	0
70+	0	0	0	0	0	2	2	8	5	1	0	14	0
<b>Total</b>	<b>2</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>8</b>	<b>40</b>	<b>174</b>	<b>374</b>	<b>616</b>	<b>197</b>	<b>125</b>	<b>137</b>	<b>1,682</b>

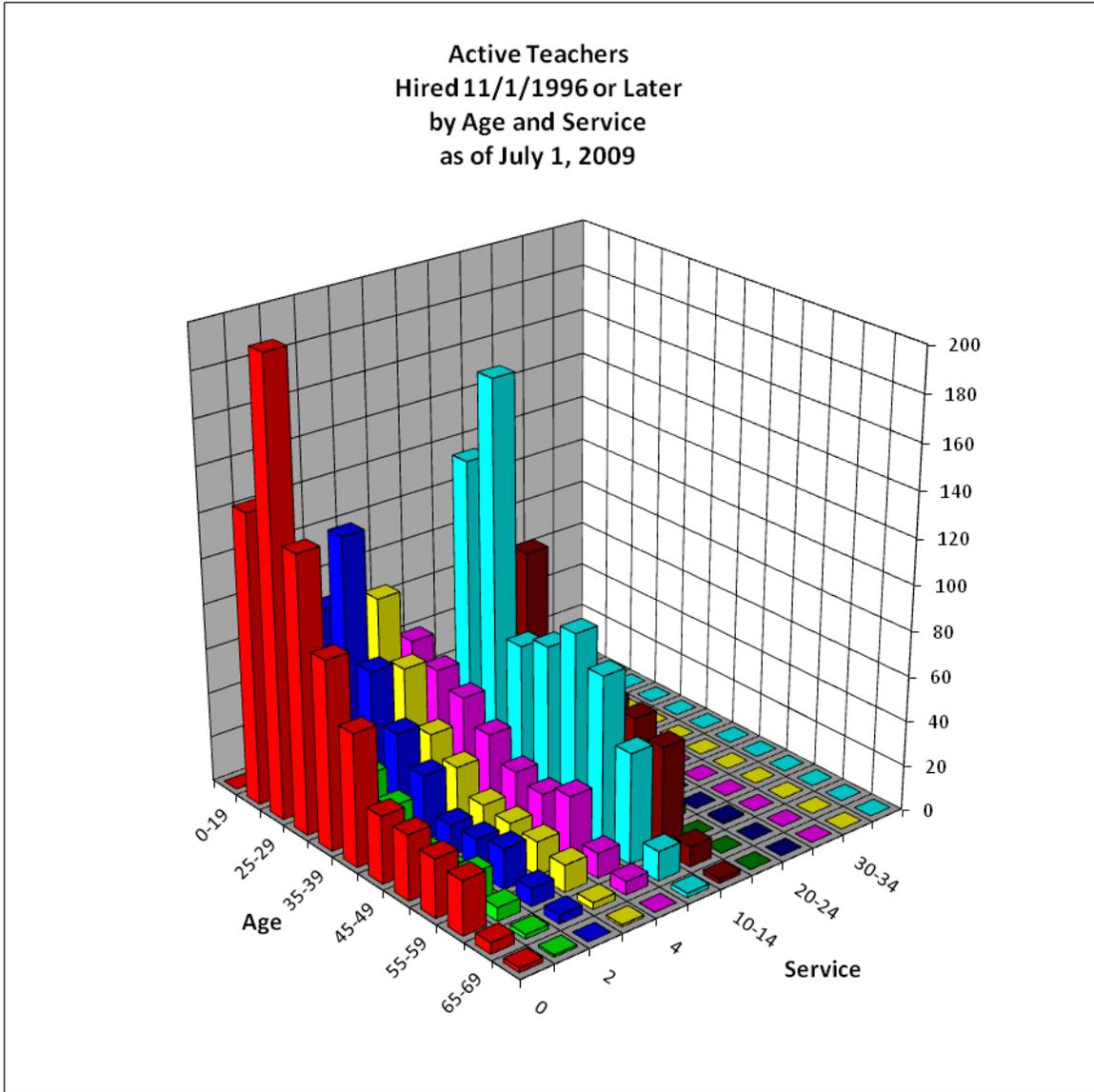


Service / Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35+	Total
0-19	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	0	0	0	0	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0	0	0	0	0
30-34	0	0	0	0	58,278	0	0	0	0	0	0	0	58,278
35-39	0	64,999	0	0	0	87,111	72,530	77,983	0	0	0	0	75,065
40-44	0	66,616	0	66,864	104,294	80,028	72,255	80,121	82,909	0	0	0	78,903
45-49	0	0	82,898	0	79,199	69,614	75,969	79,265	81,702	84,680	0	0	79,901
50-54	42,370	80,798	0	0	0	64,337	80,790	80,954	81,447	83,938	83,863	0	81,657
55-59	80,981	0	71,203	71,874	0	76,835	79,931	81,710	83,741	85,448	84,842	88,716	83,623
60-64	0	0	46,235	0	101,725	77,552	78,692	82,018	83,717	85,171	84,051	86,679	83,678
65-69	0	0	0	0	85,600	84,960	74,929	81,997	83,468	83,097	85,702	84,501	83,467
70+	0	0	0	0	0	84,111	67,101	73,614	78,311	87,583	0	87,501	81,109
<b>Total</b>	<b>61,676</b>	<b>69,757</b>	<b>66,779</b>	<b>69,369</b>	<b>84,137</b>	<b>77,323</b>	<b>76,643</b>	<b>80,572</b>	<b>82,651</b>	<b>84,859</b>	<b>84,535</b>	<b>86,658</b>	<b>82,073</b>

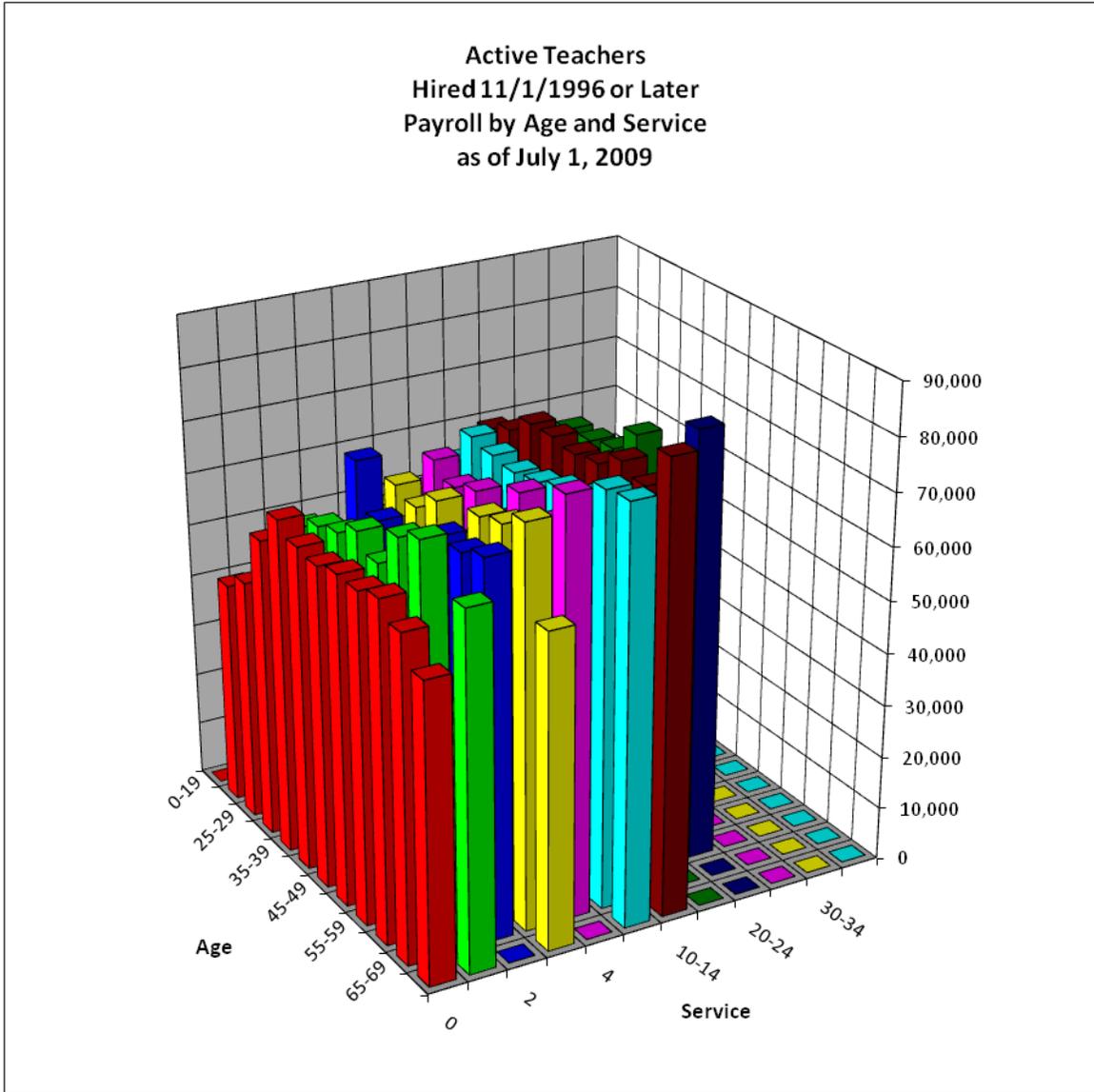
Average Age: 55.3

Average Service: 22.4





Service / Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35+	Total
0-19	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	129	3	77	4	0	0	0	0	0	0	0	0	213
25-29	200	22	115	83	59	31	1	0	0	0	0	0	511
30-34	123	33	62	58	52	139	23	0	0	0	0	0	490
35-39	84	28	41	35	46	179	100	0	0	0	0	0	513
40-44	59	21	29	27	36	70	53	2	0	0	0	0	297
45-49	30	9	14	17	26	76	45	4	0	0	0	0	221
50-54	29	8	15	16	23	88	53	2	0	0	0	0	234
55-59	26	13	18	15	29	76	52	4	0	0	0	0	233
60-64	24	6	8	12	11	49	46	0	1	0	0	0	157
65-69	5	2	4	3	6	13	9	0	0	0	0	0	42
70+	2	1	0	1	0	2	2	0	0	0	0	0	8
<b>Total</b>	<b>711</b>	<b>146</b>	<b>383</b>	<b>271</b>	<b>288</b>	<b>723</b>	<b>384</b>	<b>12</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2,919</b>

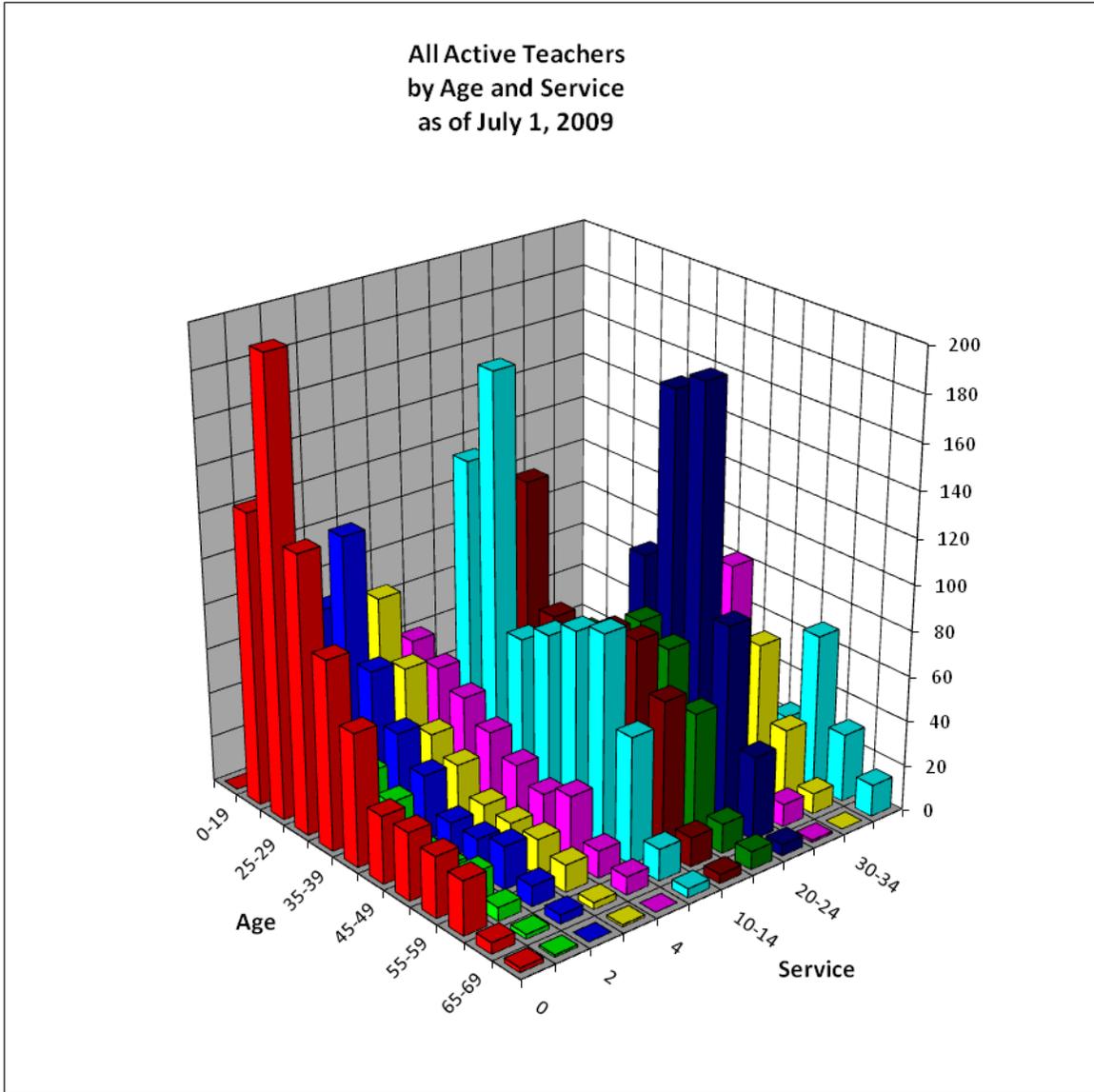


Service / Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35+	Total
0-19	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	42,713	42,515	43,470	45,104	0	0	0	0	0	0	0	0	43,029
25-29	46,237	46,872	45,996	48,224	49,818	52,943	58,267	0	0	0	0	0	47,377
30-34	57,202	58,190	53,287	58,969	60,638	64,549	69,033	0	0	0	0	0	59,986
35-39	63,929	61,108	71,706	65,678	68,801	71,640	71,375	0	0	0	0	0	69,095
40-44	61,774	62,736	63,304	64,229	66,343	70,755	75,060	72,659	0	0	0	0	67,329
45-49	61,154	65,861	58,390	68,156	68,343	70,180	75,268	73,045	0	0	0	0	68,748
50-54	62,628	62,902	55,411	62,785	65,654	71,022	74,632	74,160	0	0	0	0	68,457
55-59	62,606	70,414	68,957	70,810	73,482	72,688	75,576	79,268	0	0	0	0	71,883
60-64	64,242	72,850	68,912	72,300	70,706	73,882	78,695	0	81,360	0	0	0	73,230
65-69	61,337	44,834	70,945	75,442	78,690	77,894	76,944	0	0	0	0	0	73,422
70+	56,185	66,864	0	59,330	0	78,599	84,733	0	0	0	0	0	70,654
<b>Total</b>	<b>53,512</b>	<b>59,674</b>	<b>53,371</b>	<b>59,095</b>	<b>63,588</b>	<b>69,554</b>	<b>74,261</b>	<b>75,241</b>	<b>81,360</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>62,116</b>

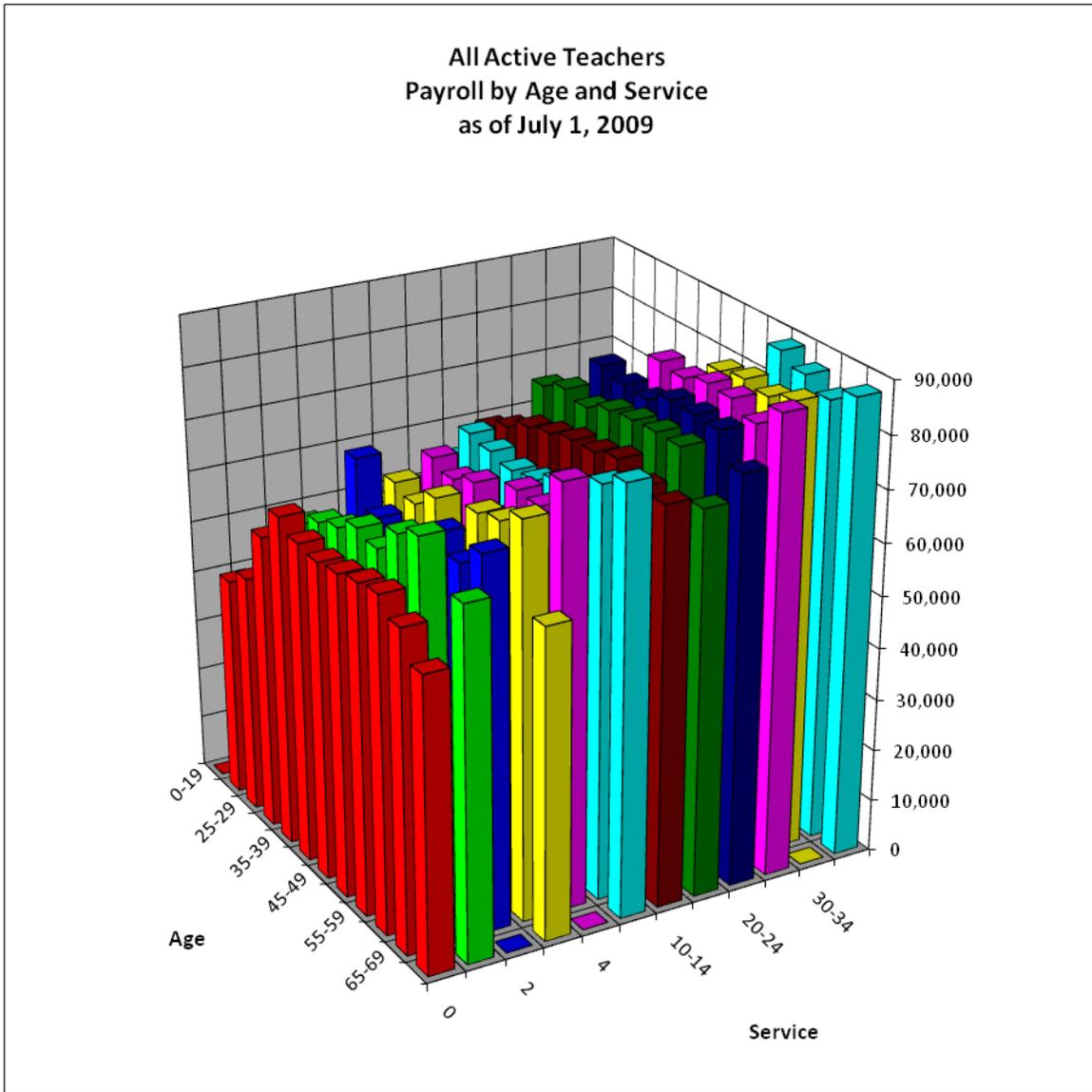
Average Age: 39.8

Average Service: 4.7





Service / Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35+	Total
<b>0-19</b>	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>20-24</b>	129	3	77	4	0	0	0	0	0	0	0	0	213
<b>25-29</b>	200	22	115	83	59	31	1	0	0	0	0	0	511
<b>30-34</b>	123	33	62	58	53	139	23	0	0	0	0	0	491
<b>35-39</b>	84	29	41	35	46	182	131	18	0	0	0	0	566
<b>40-44</b>	59	23	29	28	37	73	78	66	24	0	0	0	417
<b>45-49</b>	30	9	15	17	29	81	72	66	101	3	0	0	423
<b>50-54</b>	30	9	15	16	23	89	84	83	177	57	22	0	605
<b>55-59</b>	27	13	19	16	29	94	86	77	185	103	63	25	737
<b>60-64</b>	24	6	9	12	12	56	66	55	88	23	31	68	450
<b>65-69</b>	5	2	4	3	8	14	13	13	37	10	9	30	148
<b>70+</b>	2	1	0	1	0	4	4	8	5	1	0	14	40
<b>Total</b>	713	150	386	273	296	763	558	386	617	197	125	137	4,601

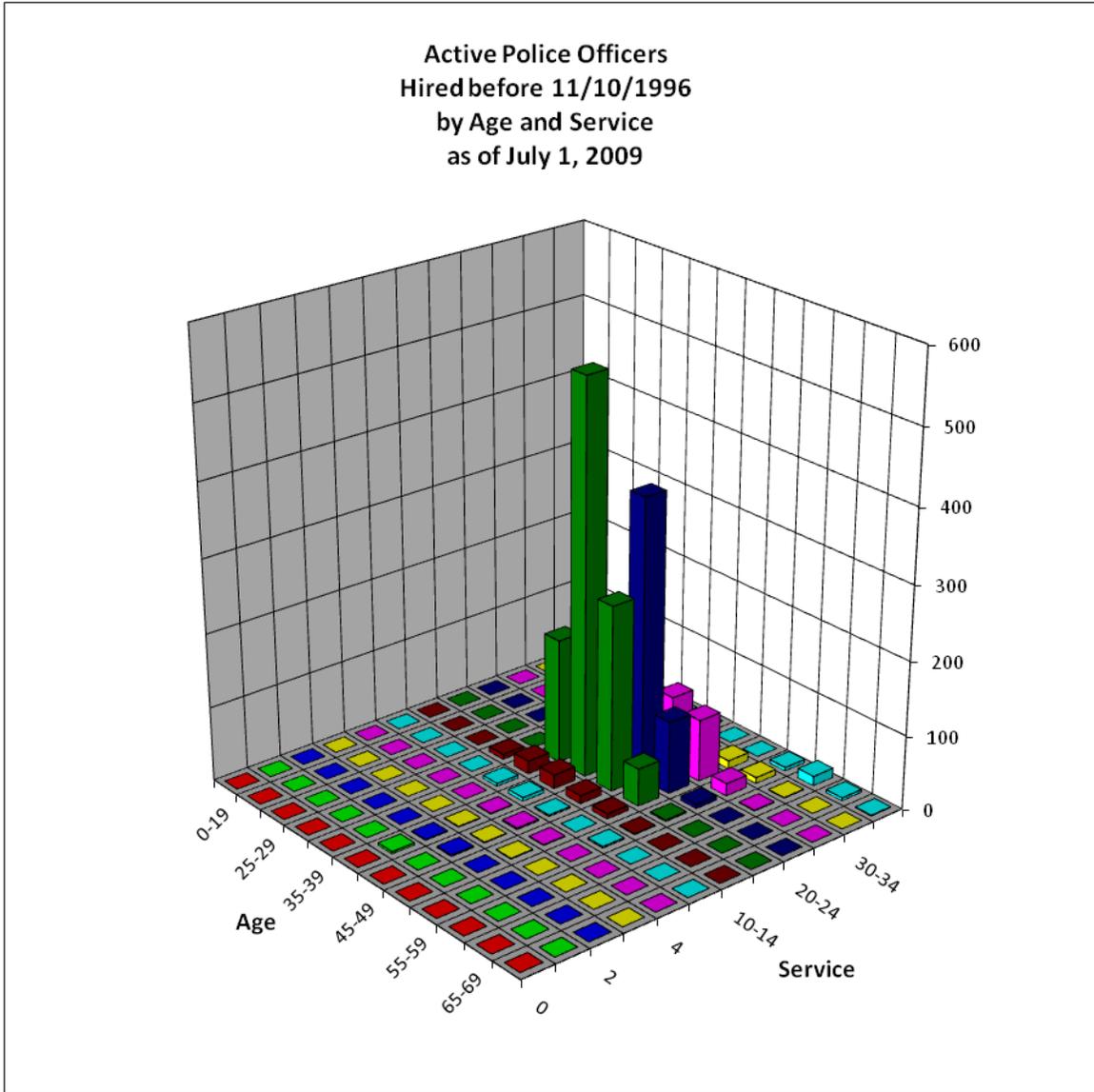


Service / Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35+	Total
0-19	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	42,713	42,515	43,470	45,104	0	0	0	0	0	0	0	0	43,029
25-29	46,237	46,872	45,996	48,224	49,818	52,943	58,267	0	0	0	0	0	47,377
30-34	57,202	58,190	53,287	58,969	60,593	64,549	69,033	0	0	0	0	0	59,983
35-39	63,929	61,242	71,706	65,678	68,801	71,895	71,648	77,983	0	0	0	0	69,654
40-44	61,774	63,073	63,304	64,323	67,369	71,136	74,161	79,895	82,909	0	0	0	70,660
45-49	61,154	65,861	60,024	68,156	69,466	70,145	75,531	78,888	81,702	84,680	0	0	74,074
50-54	61,953	64,890	55,411	62,785	65,654	70,947	76,905	80,790	81,447	83,938	83,863	0	76,552
55-59	63,287	70,414	69,075	70,877	73,482	73,482	77,298	81,583	83,741	85,448	84,842	88,716	79,911
60-64	64,242	72,850	66,392	72,300	73,291	74,341	78,694	82,018	83,690	85,171	84,051	86,679	80,033
65-69	61,337	44,834	70,945	75,442	80,418	78,399	76,324	81,997	83,468	83,097	85,702	84,501	80,616
70+	56,185	66,864	0	59,330	0	81,355	75,917	73,614	78,311	87,583	0	87,501	79,018
<b>Total</b>	<b>53,535</b>	<b>59,943</b>	<b>53,476</b>	<b>59,170</b>	<b>64,144</b>	<b>69,962</b>	<b>75,004</b>	<b>80,406</b>	<b>82,649</b>	<b>84,859</b>	<b>84,535</b>	<b>86,658</b>	<b>69,412</b>

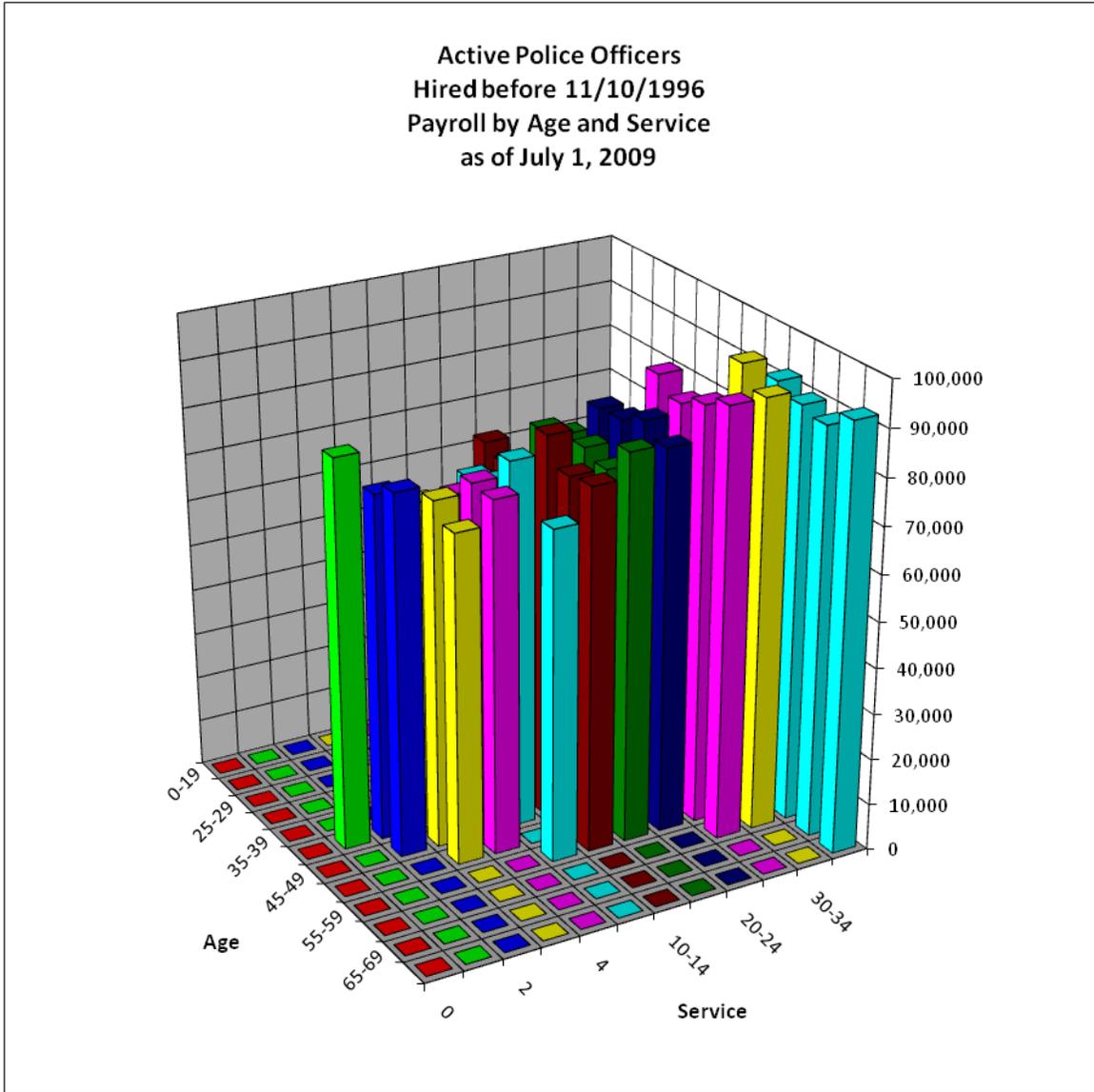
Average Age: 45.5

Average Service: 11.2





Service / Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35+	Total
0-19	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	0	0	0	0	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	7	0	0	0	0	0	30
35-39	0	0	0	0	0	4	18	168	0	0	0	0	177
40-44	0	3	1	1	1	5	19	531	216	0	0	0	218
45-49	0	0	2	1	2	2	11	251	379	96	0	0	241
50-54	0	0	0	1	1	0	7	51	98	84	11	0	139
55-59	0	0	0	0	0	2	1	2	6	17	8	5	21
60-64	0	0	0	0	0	0	0	0	0	1	1	13	2
65-69	0	0	0	0	0	0	0	0	0	0	0	4	0
70+	0	0	0	0	0	0	0	0	0	0	0	1	0
<b>Total</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>4</b>	<b>13</b>	<b>63</b>	<b>1,003</b>	<b>699</b>	<b>198</b>	<b>20</b>	<b>23</b>	<b>2,032</b>

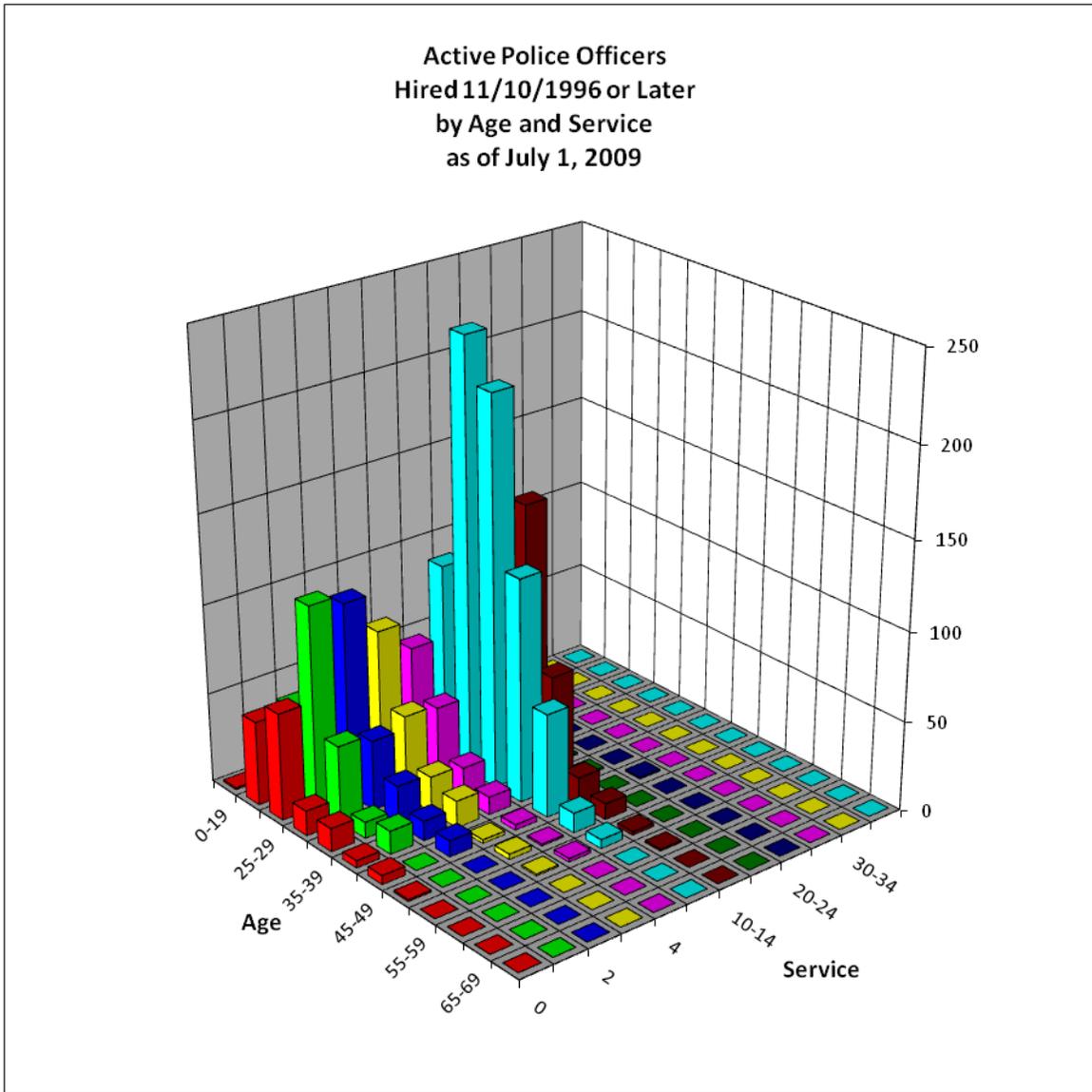


Service / Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35+	Total
0-19	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	0	0	0	0	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	73,277	0	0	0	0	0	73,277
35-39	0	0	0	0	0	70,300	71,547	77,160	0	0	0	0	76,484
40-44	0	84,217	74,994	71,424	71,424	72,236	72,188	79,014	82,839	0	0	0	79,862
45-49	0	0	78,369	74,994	76,869	79,693	83,379	79,169	83,288	91,172	0	0	82,866
50-54	0	0	0	71,424	76,495	0	77,779	77,473	85,942	87,842	85,429	0	84,523
55-59	0	0	0	0	0	71,758	78,743	84,015	83,179	90,346	97,226	92,072	89,352
60-64	0	0	0	0	0	0	0	0	0	92,982	92,982	89,926	90,333
65-69	0	0	0	0	0	0	0	0	0	0	0	88,576	88,576
70+	0	0	0	0	0	0	0	0	0	0	0	92,387	92,387
<b>Total</b>	<b>0</b>	<b>84,217</b>	<b>77,244</b>	<b>72,614</b>	<b>75,414</b>	<b>72,714</b>	<b>74,805</b>	<b>78,674</b>	<b>83,520</b>	<b>89,697</b>	<b>90,525</b>	<b>90,265</b>	<b>81,496</b>

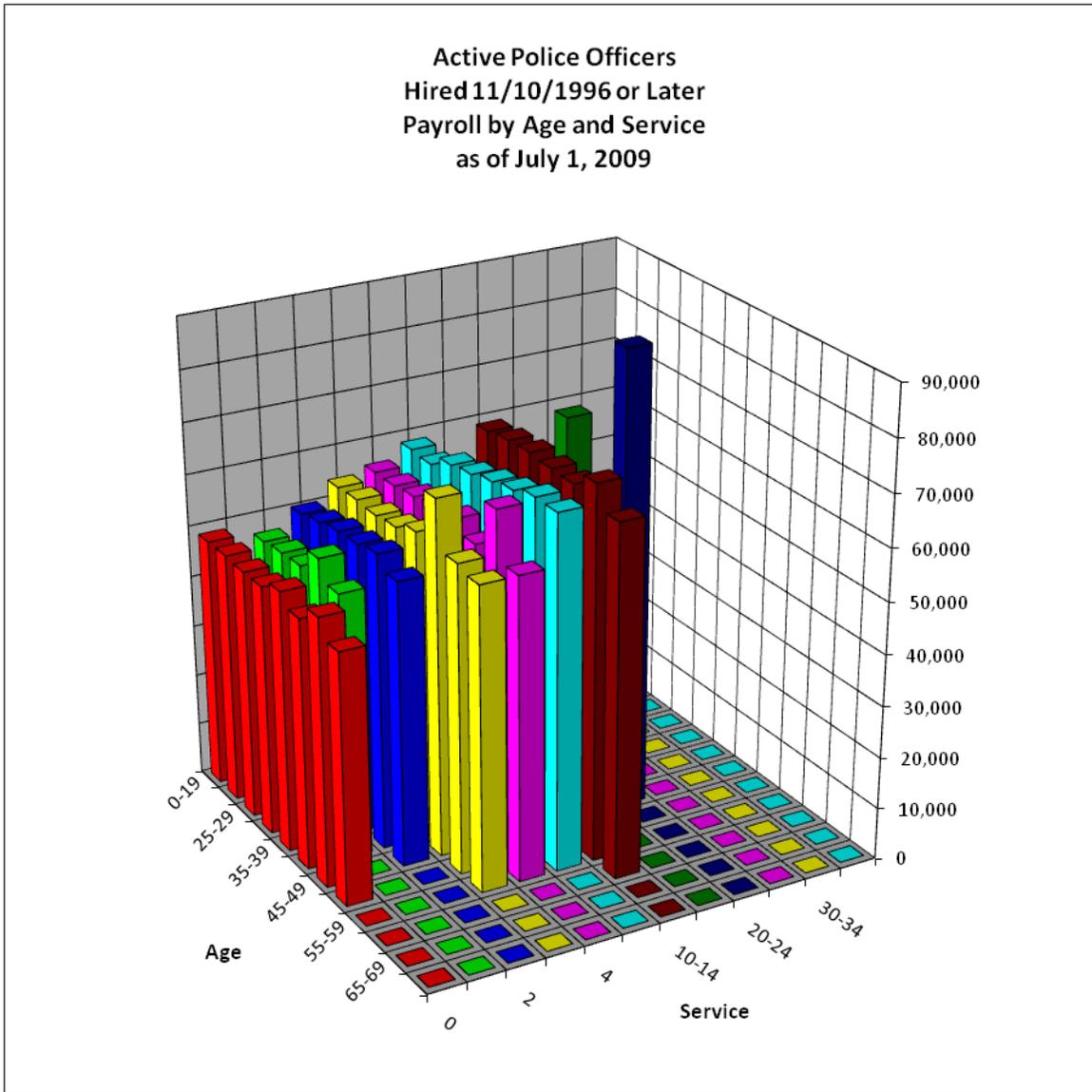
Average Age: 45.5

Average Service: 20.4





Service / Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35+	Total
0-19	1	0	0	0	0	0	0	0	0	0	0	0	1
20-24	47	49	20	2	2	1	0	0	0	0	0	0	121
25-29	60	113	108	86	70	110	0	0	0	0	0	0	547
30-34	14	43	39	46	44	241	62	0	0	0	0	0	489
35-39	13	9	22	20	18	217	152	1	0	0	0	0	452
40-44	4	13	11	15	10	125	64	1	0	0	0	0	243
45-49	5	0	9	2	3	58	15	0	1	0	0	0	93
50-54	1	0	0	3	1	11	9	0	0	0	0	0	25
55-59	0	0	0	1	2	5	2	0	0	0	0	0	10
60-64	0	0	0	0	0	0	1	0	0	0	0	0	1
65-69	0	0	0	0	0	0	0	0	0	0	0	0	0
70+	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	145	227	209	175	150	768	305	2	1	0	0	0	1,982

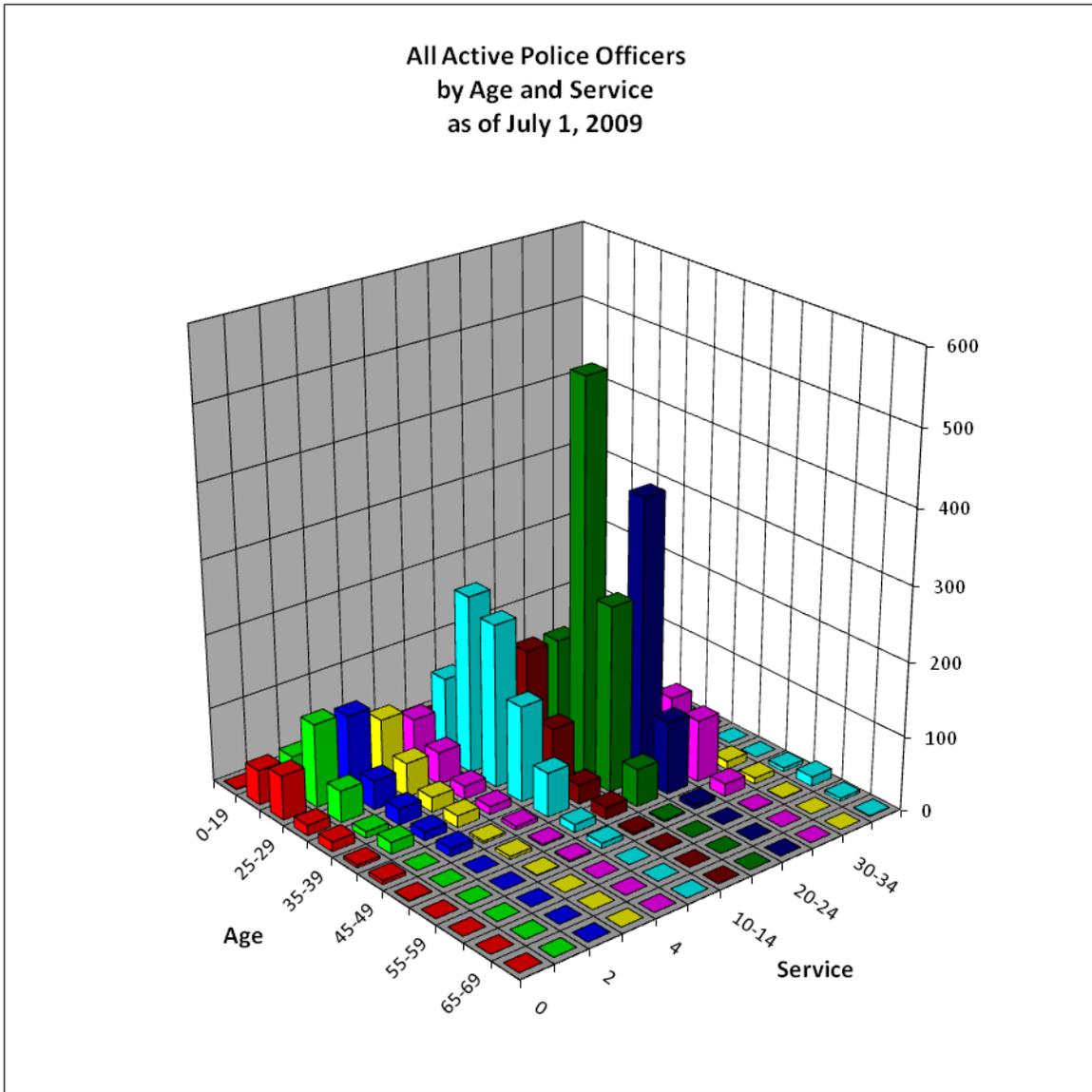


Service / Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35+	Total
0-19	48,715	0	0	0	0	0	0	0	0	0	0	0	48,715
20-24	48,869	49,990	53,699	57,361	58,759	61,698	0	0	0	0	0	0	50,531
25-29	48,612	50,655	54,819	57,686	58,780	61,416	0	0	0	0	0	0	55,562
30-34	48,715	51,067	55,967	57,381	59,399	63,902	68,821	0	0	0	0	0	61,311
35-39	50,797	55,356	56,334	57,935	60,192	64,764	69,658	64,772	0	0	0	0	64,926
40-44	48,715	51,607	57,376	59,886	60,723	66,049	70,033	74,994	0	0	0	0	65,085
45-49	52,028	0	55,147	68,848	58,759	67,147	69,655	0	88,868	0	0	0	65,577
50-54	48,715	0	0	59,739	68,023	68,627	69,499	0	0	0	0	0	67,054
55-59	0	0	0	58,759	58,759	68,582	72,291	0	0	0	0	0	66,377
60-64	0	0	0	0	0	0	68,023	0	0	0	0	0	68,023
65-69	0	0	0	0	0	0	0	0	0	0	0	0	0
70+	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>49,023</b>	<b>50,830</b>	<b>55,234</b>	<b>57,988</b>	<b>59,321</b>	<b>64,479</b>	<b>69,574</b>	<b>69,883</b>	<b>88,868</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>60,649</b>

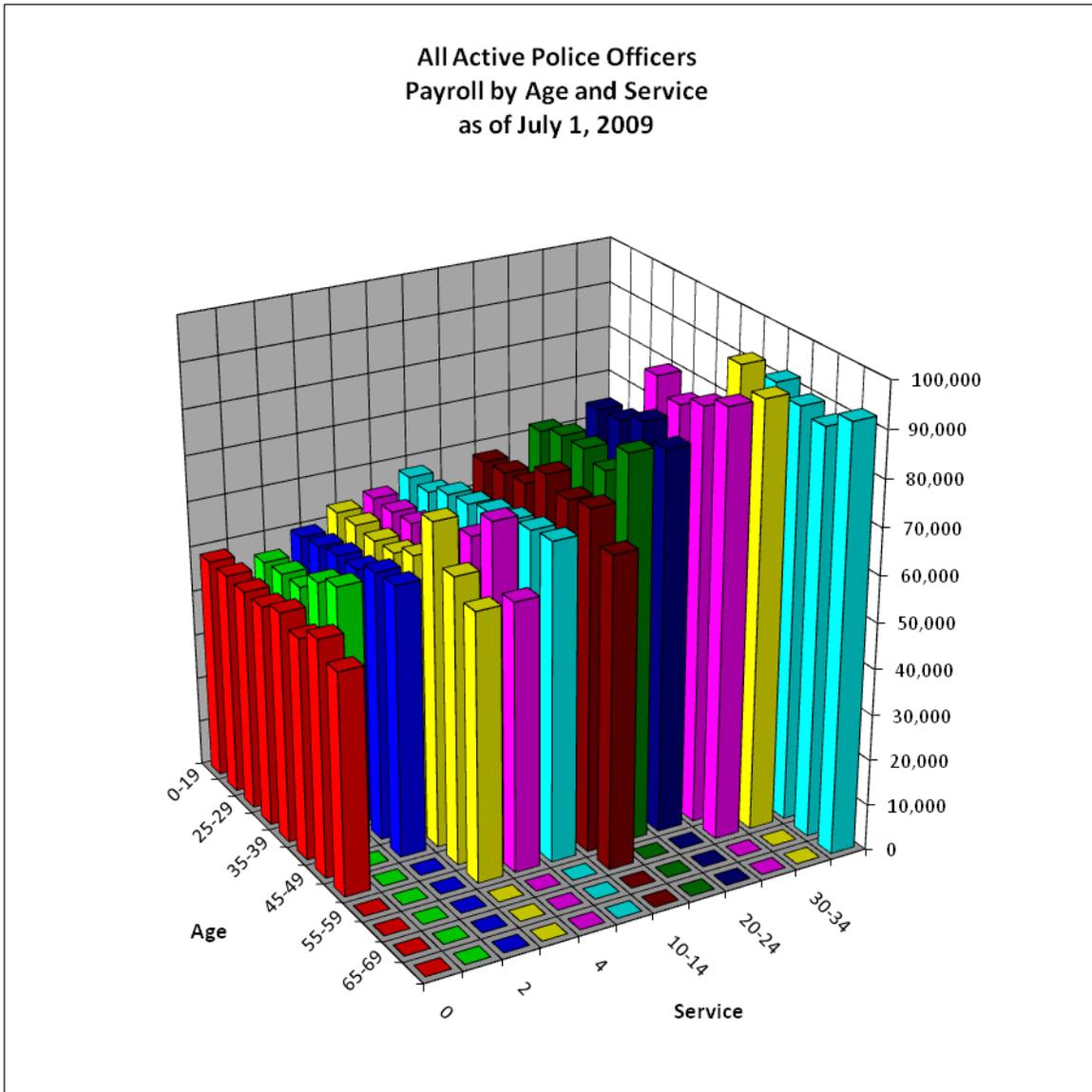
Average Age: 33.9

Average Service: 5.8





Service / Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35+	Total
0-19	1	0	0	0	0	0	0	0	0	0	0	0	1
20-24	47	49	20	2	2	1	0	0	0	0	0	0	121
25-29	60	113	108	86	70	110	0	0	0	0	0	0	547
30-34	14	43	39	46	44	241	69	0	0	0	0	0	496
35-39	13	9	22	20	18	221	170	169	0	0	0	0	642
40-44	4	16	12	16	11	130	83	532	216	0	0	0	1,020
45-49	5	0	11	3	5	60	26	251	380	96	0	0	837
50-54	1	0	0	4	2	11	16	51	98	84	11	0	278
55-59	0	0	0	1	2	7	3	2	6	17	8	5	51
60-64	0	0	0	0	0	0	1	0	0	1	1	13	16
65-69	0	0	0	0	0	0	0	0	0	0	0	4	4
70+	0	0	0	0	0	0	0	0	0	0	0	1	1
<b>Total</b>	<b>145</b>	<b>230</b>	<b>212</b>	<b>178</b>	<b>154</b>	<b>781</b>	<b>368</b>	<b>1,005</b>	<b>700</b>	<b>198</b>	<b>20</b>	<b>23</b>	<b>4,014</b>

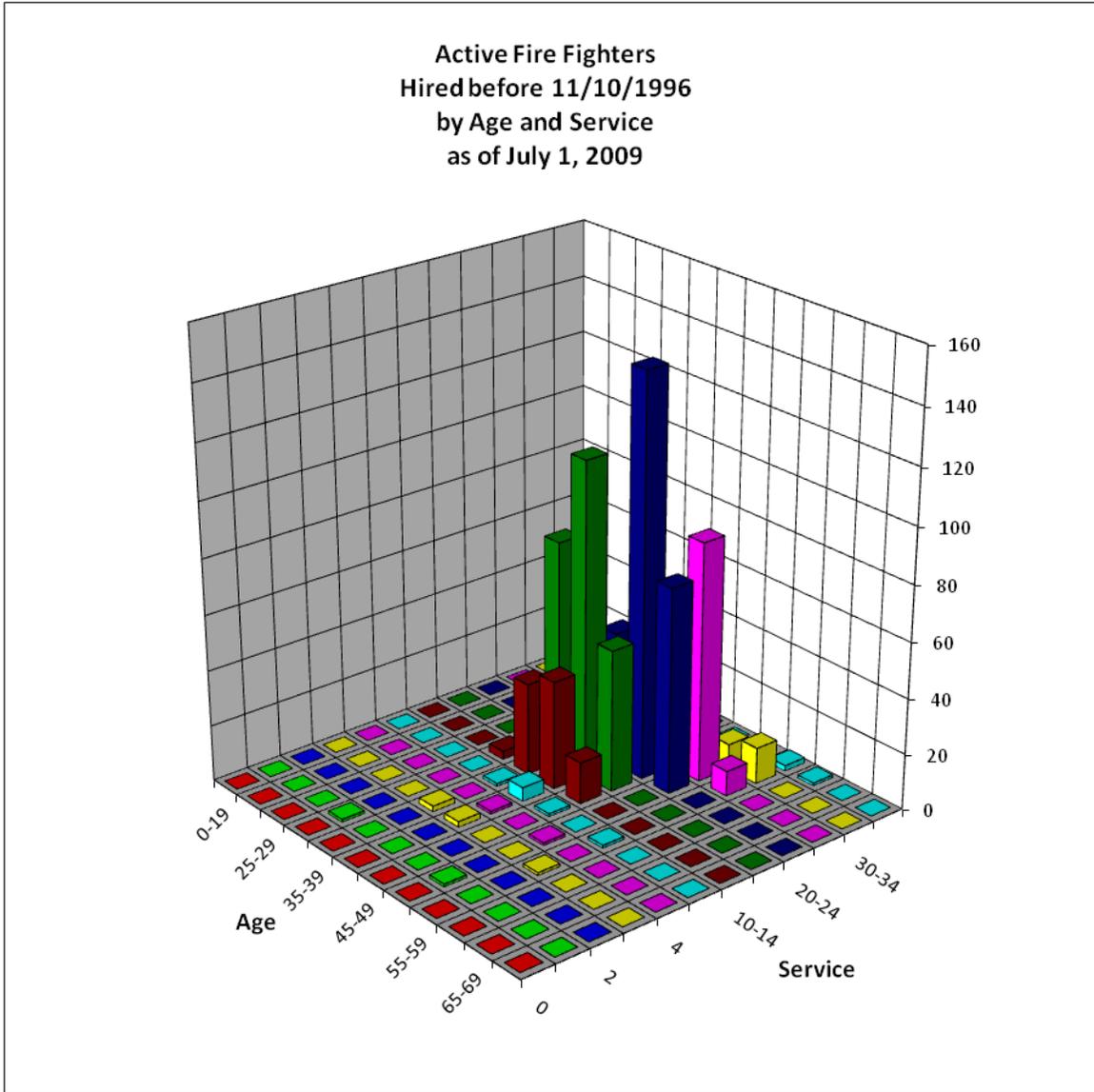


Service / Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35+	Total
0-19	48,715	0	0	0	0	0	0	0	0	0	0	0	48,715
20-24	48,869	49,990	53,699	57,361	58,759	61,698	0	0	0	0	0	0	50,531
25-29	48,612	50,655	54,819	57,686	58,780	61,416	0	0	0	0	0	0	55,562
30-34	48,715	51,067	55,967	57,381	59,399	63,902	69,273	0	0	0	0	0	61,480
35-39	50,797	55,356	56,334	57,935	60,192	64,864	69,858	77,087	0	0	0	0	68,347
40-44	48,715	57,721	58,844	60,607	61,696	66,287	70,526	79,006	82,839	0	0	0	76,342
45-49	52,028	0	59,369	70,897	66,003	67,565	75,461	79,169	83,303	91,172	0	0	80,945
50-54	48,715	0	0	62,660	72,259	68,627	73,122	77,473	85,942	87,842	85,429	0	82,952
55-59	0	0	0	58,759	58,759	69,489	74,442	84,015	83,179	90,346	97,226	92,072	84,847
60-64	0	0	0	0	0	0	68,023	0	0	92,982	92,982	89,926	88,939
65-69	0	0	0	0	0	0	0	0	0	0	0	88,576	88,576
70+	0	0	0	0	0	0	0	0	0	0	0	92,387	92,387
<b>Total</b>	<b>49,023</b>	<b>51,266</b>	<b>55,546</b>	<b>58,235</b>	<b>59,739</b>	<b>64,616</b>	<b>70,469</b>	<b>78,656</b>	<b>83,528</b>	<b>89,697</b>	<b>90,525</b>	<b>90,265</b>	<b>71,202</b>

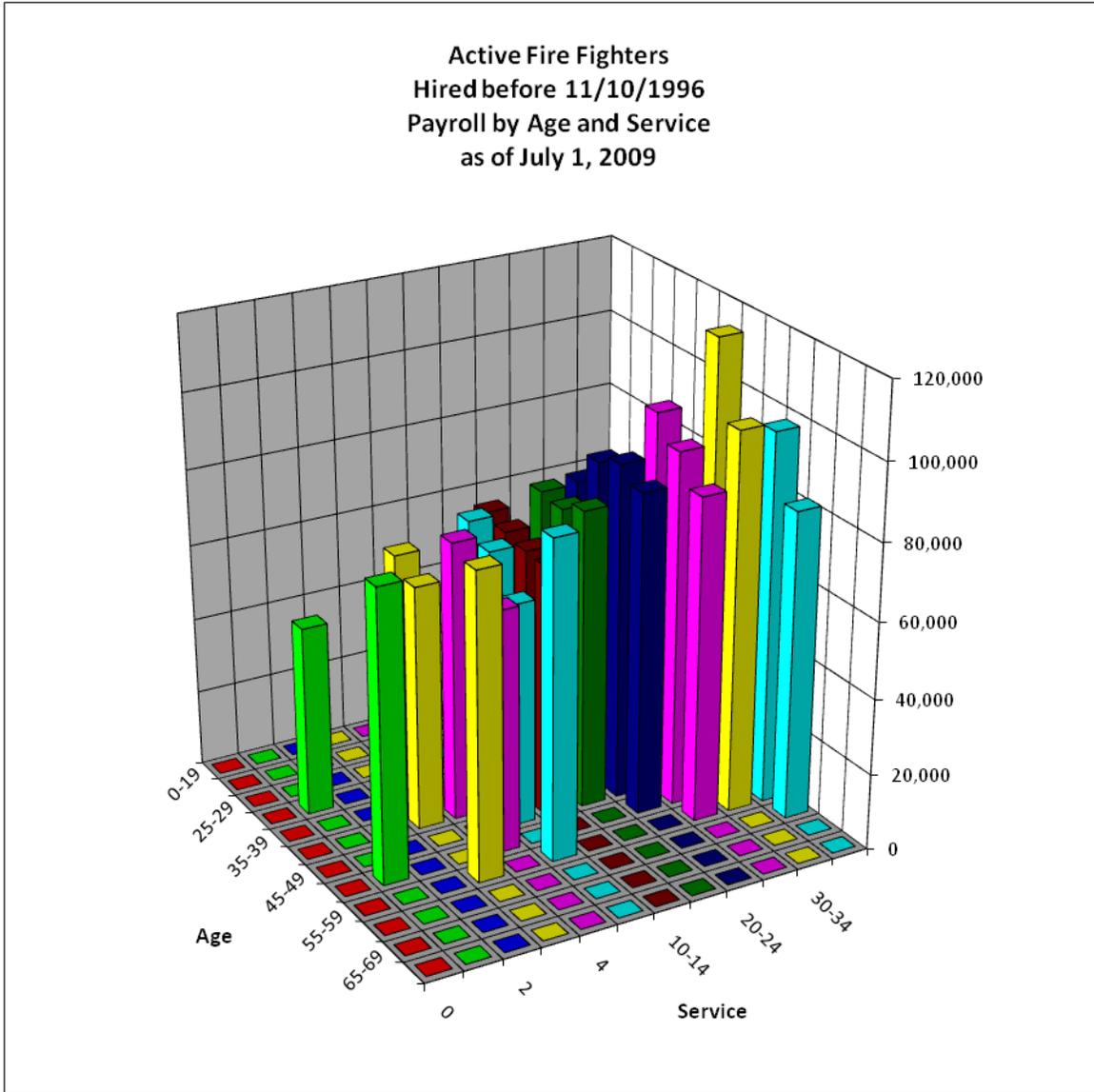
Average Age: 39.8

Average Service: 13.2





Service / Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35+	Total
0-19	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	0	0	0	0	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0	0	0	0	0
30-34	0	1	0	0	0	0	3	0	0	0	0	0	30
35-39	0	0	0	2	0	1	33	80	7	0	0	0	177
40-44	0	0	0	2	1	5	39	113	48	0	0	0	218
45-49	0	0	0	0	0	1	15	51	144	27	0	0	241
50-54	0	1	0	0	1	0	0	0	74	86	9	0	139
55-59	0	0	0	1	0	1	0	0	0	9	13	2	21
60-64	0	0	0	0	0	0	0	0	0	0	0	1	2
65-69	0	0	0	0	0	0	0	0	0	0	0	0	0
70+	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>5</b>	<b>2</b>	<b>8</b>	<b>90</b>	<b>244</b>	<b>273</b>	<b>122</b>	<b>22</b>	<b>3</b>	<b>771</b>

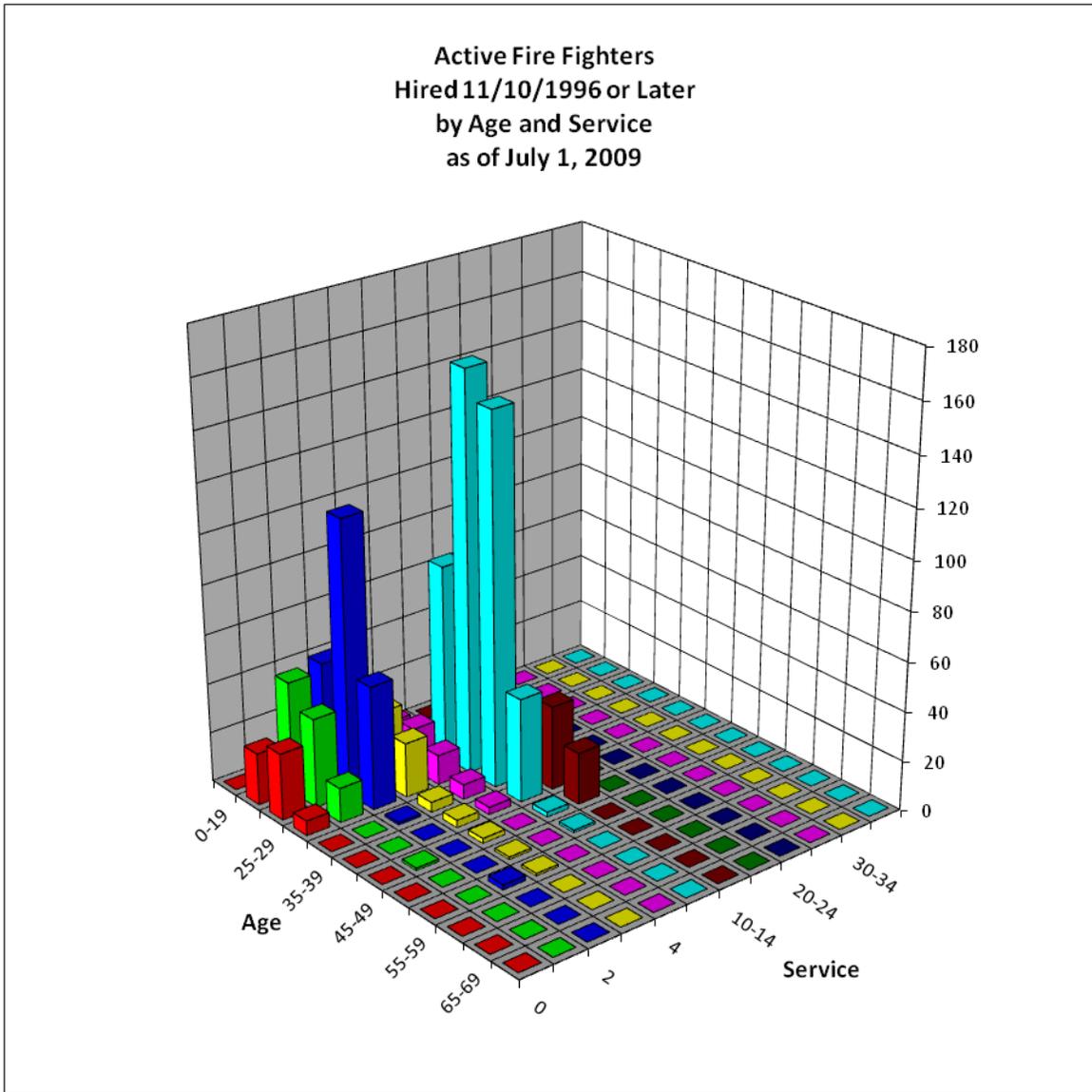


Service / Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35+	Total
0-19	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	0	0	0	0	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0	0	0	0	0
30-34	0	50,060	0	0	0	0	69,566	0	0	0	0	0	64,690
35-39	0	0	0	68,581	0	73,135	68,116	76,617	77,219	0	0	0	74,212
40-44	0	0	0	64,359	73,498	68,975	66,961	75,652	85,759	0	0	0	76,075
45-49	0	0	0	0	0	59,077	66,596	78,870	88,675	99,825	0	0	86,323
50-54	0	76,998	0	0	63,796	0	0	0	85,004	93,374	119,955	0	90,882
55-59	0	0	0	80,498	0	83,998	0	0	0	85,588	100,198	97,904	93,583
60-64	0	0	0	0	0	0	0	0	0	0	0	81,340	81,340
65-69	0	0	0	0	0	0	0	0	0	0	0	0	0
70+	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>63,529</b>	<b>0</b>	<b>69,276</b>	<b>68,647</b>	<b>70,136</b>	<b>67,411</b>	<b>76,641</b>	<b>86,873</b>	<b>94,227</b>	<b>108,280</b>	<b>92,383</b>	<b>82,764</b>

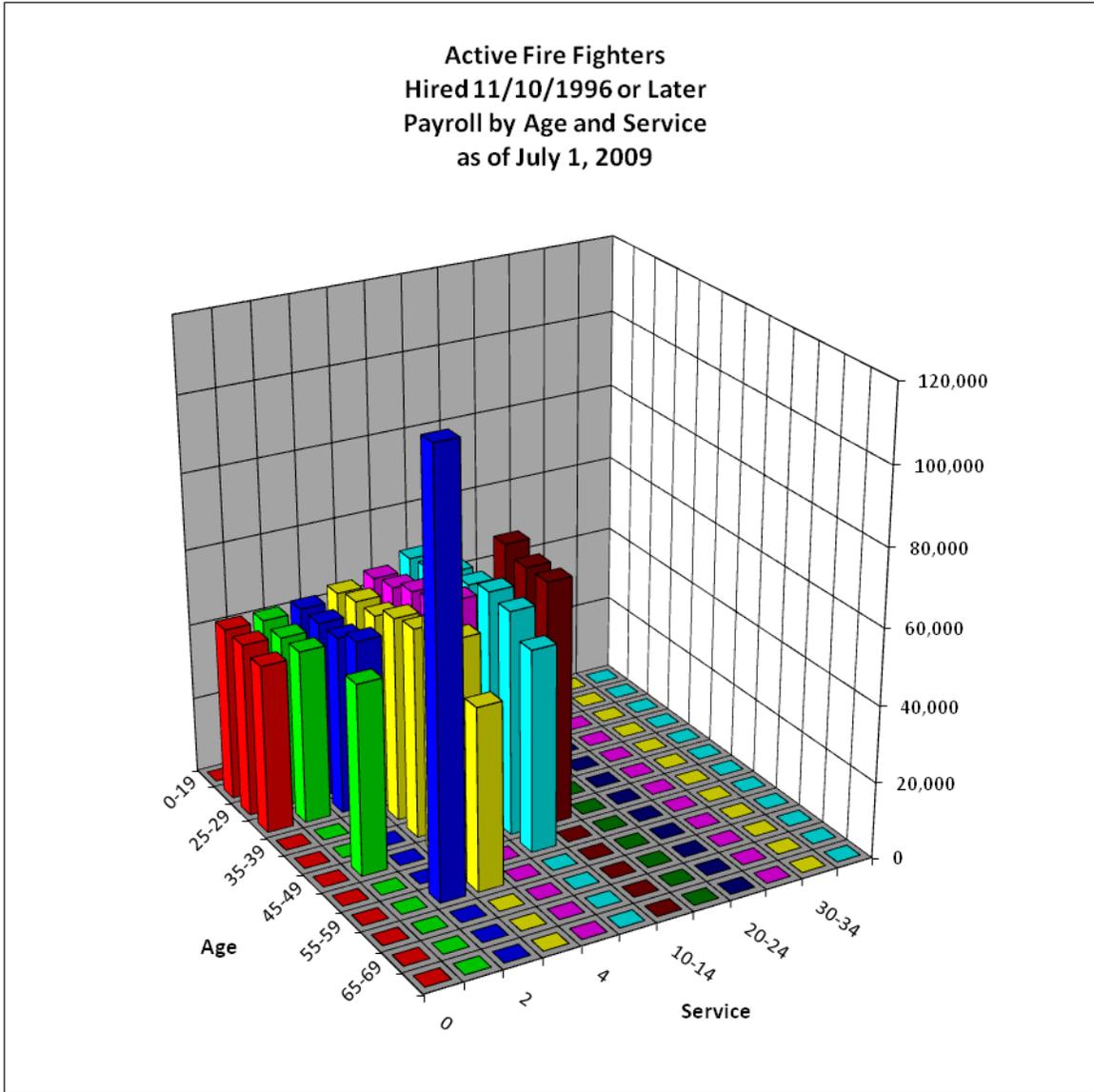
Average Age: 46.0

Average Service: 20.7





Service / Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35+	Total
0-19	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	21	45	48	23	14	4	0	0	0	0	0	0	155
25-29	27	36	111	29	17	79	0	0	0	0	0	0	299
30-34	6	14	50	22	12	161	0	0	0	0	0	0	265
35-39	0	0	1	4	6	150	10	0	0	0	0	0	171
40-44	0	0	0	3	3	42	34	0	0	0	0	0	82
45-49	0	1	0	2	0	2	21	0	0	0	0	0	26
50-54	0	0	0	1	0	1	0	0	0	0	0	0	2
55-59	0	0	2	1	0	0	0	0	0	0	0	0	3
60-64	0	0	0	0	0	0	0	0	0	0	0	0	0
65-69	0	0	0	0	0	0	0	0	0	0	0	0	0
70+	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	54	96	212	85	52	439	65	0	0	0	0	0	1,003

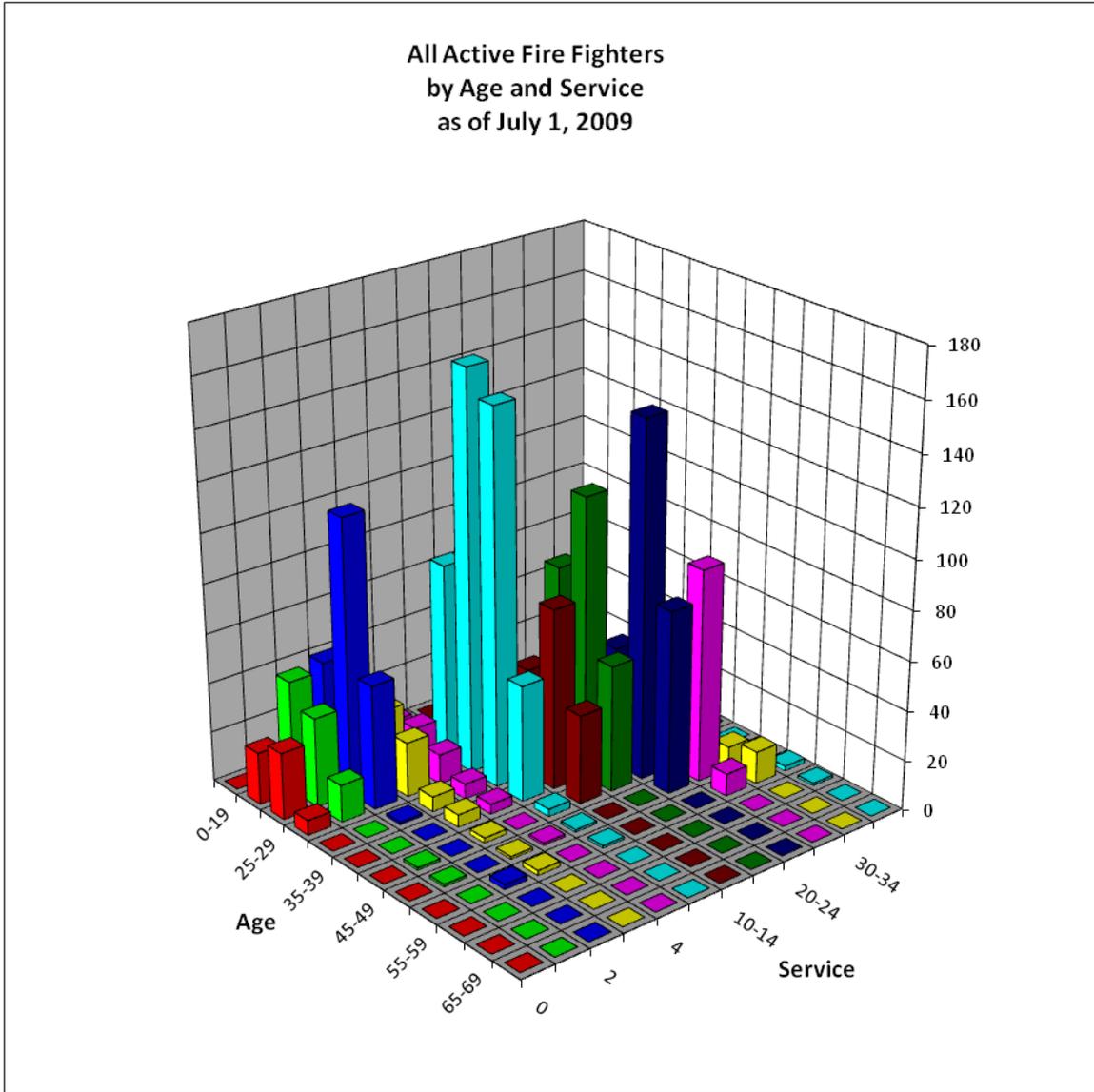


Service / Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35+	Total
0-19	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	45,567	45,670	46,406	48,326	50,060	53,162	0	0	0	0	0	0	46,868
25-29	45,663	45,175	46,628	50,090	51,468	54,080	0	0	0	0	0	0	48,946
30-34	44,301	45,662	46,844	50,321	54,387	57,140	0	0	0	0	0	0	53,610
35-39	0	0	50,060	53,716	55,894	57,849	66,202	0	0	0	0	0	58,127
40-44	0	0	0	55,081	59,941	59,967	63,988	0	0	0	0	0	61,455
45-49	0	50,060	0	60,693	0	58,921	64,136	0	0	0	0	0	62,929
50-54	0	0	0	60,694	0	53,162	0	0	0	0	0	0	56,928
55-59	0	0	113,739	47,844	0	0	0	0	0	0	0	0	91,774
60-64	0	0	0	0	0	0	0	0	0	0	0	0	0
65-69	0	0	0	0	0	0	0	0	0	0	0	0	0
70+	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>45,474</b>	<b>45,529</b>	<b>47,278</b>	<b>50,367</b>	<b>52,762</b>	<b>57,065</b>	<b>64,376</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>52,951</b>

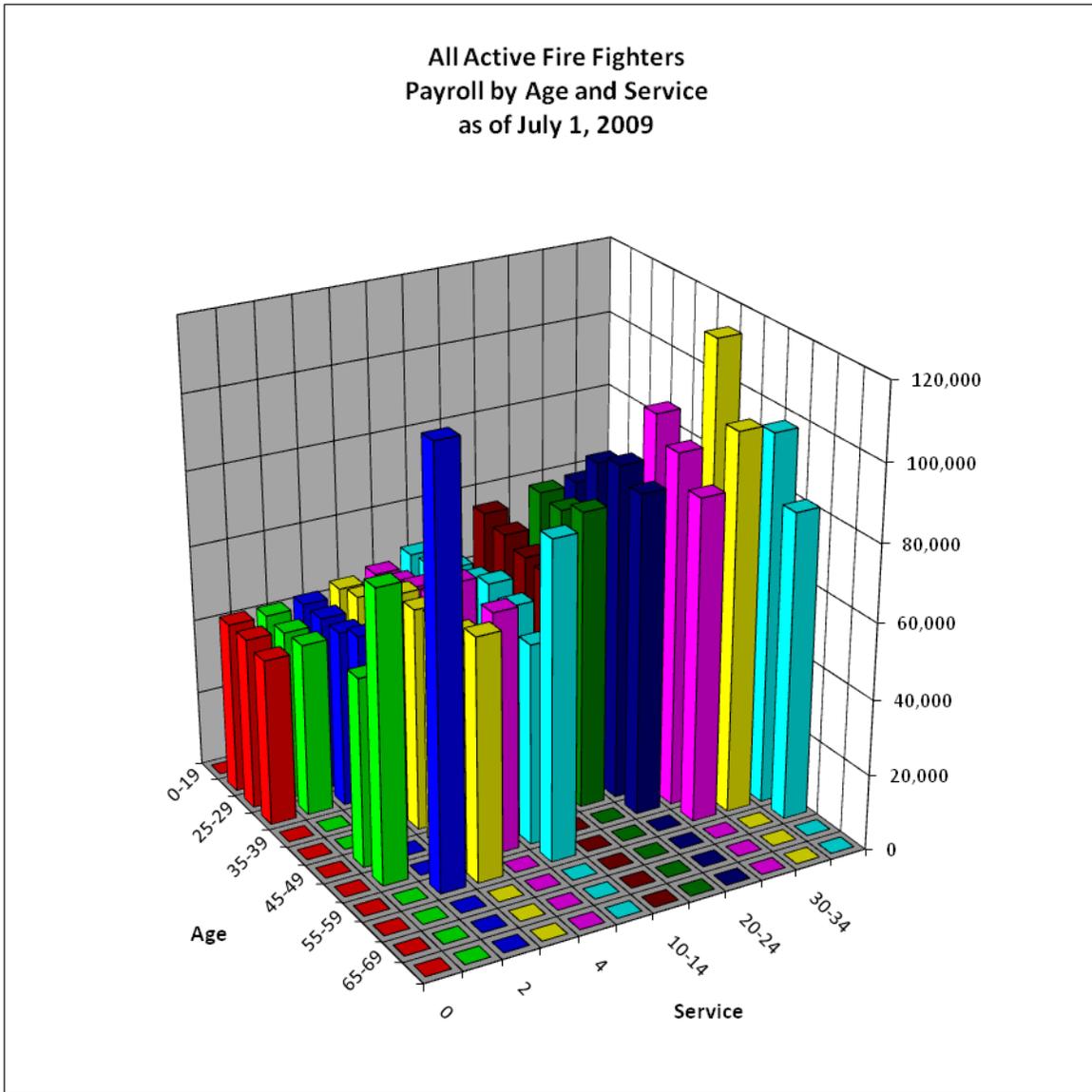
Average Age: 31.6

Average Service: 5.1





Service / Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35+	Total
0-19	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	21	45	48	23	14	4	0	0	0	0	0	0	155
25-29	27	36	111	29	17	79	0	0	0	0	0	0	299
30-34	6	15	50	22	12	161	3	0	0	0	0	0	269
35-39	0	0	1	6	6	151	43	80	7	0	0	0	294
40-44	0	0	0	5	4	47	73	113	48	0	0	0	290
45-49	0	1	0	2	0	3	36	51	144	27	0	0	264
50-54	0	1	0	1	1	1	0	0	74	86	9	0	173
55-59	0	0	2	2	0	1	0	0	0	9	13	2	29
60-64	0	0	0	0	0	0	0	0	0	0	0	1	1
65-69	0	0	0	0	0	0	0	0	0	0	0	0	0
70+	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>54</b>	<b>98</b>	<b>212</b>	<b>90</b>	<b>54</b>	<b>447</b>	<b>155</b>	<b>244</b>	<b>273</b>	<b>122</b>	<b>22</b>	<b>3</b>	<b>1,774</b>



Service / Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35+	Total
0-19	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	45,567	45,670	46,406	48,326	50,060	53,162	0	0	0	0	0	0	46,868
25-29	45,663	45,175	46,628	50,090	51,468	54,080	0	0	0	0	0	0	48,946
30-34	44,301	45,955	46,844	50,321	54,387	57,140	69,566	0	0	0	0	0	53,774
35-39	0	0	50,060	58,671	55,894	57,950	67,671	76,617	77,219	0	0	0	64,856
40-44	0	0	0	58,792	63,330	60,925	65,576	75,652	85,759	0	0	0	71,941
45-49	0	50,060	0	60,693	0	58,973	65,161	78,870	88,675	99,825	0	0	84,019
50-54	0	76,998	0	60,694	63,796	53,162	0	0	85,004	93,374	119,955	0	90,490
55-59	0	0	113,739	64,171	0	83,998	0	0	0	85,588	100,198	97,904	93,396
60-64	0	0	0	0	0	0	0	0	0	0	0	81,340	81,340
65-69	0	0	0	0	0	0	0	0	0	0	0	0	0
70+	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>45,474</b>	<b>45,896</b>	<b>47,278</b>	<b>51,418</b>	<b>53,350</b>	<b>57,299</b>	<b>66,138</b>	<b>76,641</b>	<b>86,873</b>	<b>94,227</b>	<b>108,280</b>	<b>92,383</b>	<b>65,908</b>

Average Age: 37.9

Average Service: 11.9



### Inactive Teachers

Retirees	District Count	Average District Benefit	Total Count	Combined District and Fed Benefit
Under 35	0	\$0	0	\$0
35-39	0	0	0	0
40-44	0	0	1	52,212
45-49	0	0	0	0
50-54	2	22,356	2	54,420
55-59	182	17,913	183	49,328
60-64	971	13,157	1,023	43,834
65-69	941	10,137	1,193	41,051
70-74	352	8,979	904	41,147
75-79	105	9,180	791	40,017
80-84	24	9,984	516	37,686
85-89	4	15,382	336	38,862
90-94	0	0	143	41,366
95-99	0	0	57	41,216
<u>100 and over</u>	0	0	18	47,595
<b>Total</b>	<b>2,581</b>	<b>\$11,640</b>	<b>5,167</b>	<b>\$41,316</b>

Beneficiaries	District Count	Average District Benefit	Total Count	Combined District and Fed Benefit
Under 35	17	\$4,164	28	\$6,524
35-39	1	1,450	2	6,690
40-44	1	10,227	4	7,473
45-49	2	2,941	3	17,048
50-54	9	4,908	15	14,068
55-59	10	4,816	16	16,037
60-64	25	4,632	51	16,243
65-69	12	4,571	48	17,134
70-74	5	3,942	50	19,251
75-79	2	5,248	58	19,419
80-84	0	0	67	20,939
85-89	0	0	44	22,061
90-94	0	0	25	24,087
95-99	0	0	7	34,320
<u>100 and over</u>	0	0	5	20,132
<b>Total</b>	<b>84</b>	<b>\$4,542</b>	<b>423</b>	<b>\$18,442</b>

<b>Disabled</b>	<b>District Count</b>	<b>Average District Benefit</b>	<b>Total Count</b>	<b>Combined District and Fed Benefit</b>
Under 35	0	\$0	0	\$0
35-39	1	17,124	1	20,184
40-44	1	21,300	1	21,900
45-49	2	15,888	6	21,742
50-54	11	17,109	15	26,098
55-59	24	15,957	28	28,264
60-64	54	13,552	96	26,133
65-69	8	8,159	51	25,905
70-74	4	3,626	52	26,570
75-79	0	0	45	26,837
80-84	0	0	58	29,399
85-89	0	0	41	34,710
90-94	0	0	19	36,445
95-99	0	0	3	11,348
<u>100 and over</u>	0	0	0	0
<b>Total</b>	<b>105</b>	<b>\$13,838</b>	<b>416</b>	<b>\$27,955</b>

<b>Terminated Vested</b>	<b>District Count</b>	<b>Average District Benefit</b>	<b>Total Count</b>	<b>Combined District and Fed Benefit</b>
Under 35	53	\$5,068	53	\$5,102
35-39	107	5,347	107	5,726
40-44	78	5,191	88	6,448
45-49	88	6,429	101	8,666
50-54	84	6,166	96	10,767
55-59	104	7,185	190	11,057
60-64	77	6,999	133	10,420
65-69	15	6,885	49	9,634
70-74	6	6,955	24	11,531
75-79	5	7,597	23	9,637
80-84	0	0	17	7,346
85-89	0	0	22	10,493
90-94	0	0	14	7,888
95-99	0	0	16	8,576
<u>100 and over</u>	0	0	5	7,810
<b>Total</b>	<b>617</b>	<b>\$6,157</b>	<b>938</b>	<b>\$9,018</b>

### Inactive Police Officers

Retirees	District Count	Average District Benefit	Total Count	Combined District and Fed Benefit
Under 35	0	\$0	0	\$0
35-39	0	0	0	0
40-44	0	0	0	0
45-49	0	0	0	0
50-54	182	21,698	198	61,244
55-59	325	15,384	666	53,032
60-64	162	9,090	1,046	48,873
65-69	25	9,842	612	49,856
70-74	1	6,804	371	49,081
75-79	1	3,977	139	57,426
80-84	0	0	88	69,217
85-89	0	0	24	71,446
90-94	0	0	10	82,736
95-99	0	0	2	44,358
<u>100 and over</u>	0	0	0	0
<b>Total</b>	<b>696</b>	<b>\$15,342</b>	<b>3,156</b>	<b>\$51,962</b>

Beneficiaries	District Count	Average District Benefit	Total Count	Combined District and Fed Benefit
Under 35	84	\$3,944	97	\$8,257
35-39	7	9,781	8	17,136
40-44	14	16,076	19	26,706
45-49	11	11,556	18	26,843
50-54	11	7,844	42	28,676
55-59	9	6,040	91	26,462
60-64	9	3,562	146	27,749
65-69	2	4,326	131	27,067
70-74	0	0	175	27,837
75-79	0	0	127	28,818
80-84	1	552	131	27,365
85-89	0	0	105	28,724
90-94	0	0	66	28,129
95-99	0	0	22	29,977
<u>100 and over</u>	0	0	1	50,124
<b>Total</b>	<b>148</b>	<b>\$6,310</b>	<b>1,179</b>	<b>\$26,155</b>

Disabled	District Count	Average District Benefit	Total Count	Combined District and Fed Benefit
Under 35	4	\$24,528	4	\$24,528
35-39	24	22,216	25	27,231
40-44	69	20,991	76	28,500
45-49	62	18,432	80	29,066
50-54	44	18,285	82	34,247
55-59	30	8,534	156	38,332
60-64	6	11,637	184	39,499
65-69	3	8,561	157	41,487
70-74	0	0	138	45,556
75-79	0	0	94	50,059
80-84	0	0	120	51,861
85-89	0	0	49	52,976
90-94	0	0	16	54,204
95-99	0	0	3	50,472
<u>100 and over</u>	0	0	2	100,104
<b>Total</b>	<b>242</b>	<b>\$18,093</b>	<b>1,186</b>	<b>\$41,206</b>

Terminated Vested	District Count	Average District Benefit	Total Count	Combined District and Fed Benefit
Under 35	6	\$9,408	6	\$9,408
35-39	8	11,752	8	13,066
40-44	27	9,073	27	16,018
45-49	22	11,934	23	23,777
50-54	10	12,406	11	27,527
55-59	2	14,273	2	37,805
60-64	0	0	1	26,380
65-69	0	0	0	0
70-74	0	0	3	11,616
75-79	0	0	1	11,898
80-84	0	0	1	18,901
85-89	0	0	0	0
90-94	0	0	0	0
95-99	0	0	0	0
<u>100 and over</u>	0	0	0	0
<b>Total</b>	<b>75</b>	<b>\$10,808</b>	<b>83</b>	<b>\$19,407</b>



### Inactive Fire Fighters

Retirees	District Count	Average District Benefit	Total Count	Combined District and Fed Benefit
Under 35	0	\$0	0	\$0
35-39	0	0	0	0
40-44	0	0	0	0
45-49	0	0	0	0
50-54	65	27,071	65	70,232
55-59	118	19,841	149	65,149
60-64	60	15,261	194	61,742
65-69	18	9,185	242	58,555
70-74	0	0	174	56,054
75-79	0	0	86	58,612
80-84	0	0	46	70,189
85-89	0	0	14	71,101
90-94	0	0	3	84,636
95-99	0	0	1	55,416
<u>100 and over</u>	0	0	0	0
<b>Total</b>	<b>261</b>	<b>\$19,854</b>	<b>974</b>	<b>\$61,343</b>

Beneficiaries	District Count	Average District Benefit	Total Count	Combined District and Fed Benefit
Under 35	30	\$6,518	32	\$11,948
35-39	1	16,401	1	22,056
40-44	3	30,660	5	35,556
45-49	3	9,108	8	20,823
50-54	2	11,411	8	26,663
55-59	3	3,003	15	25,732
60-64	4	12,243	34	29,239
65-69	1	1,692	59	27,343
70-74	1	44,777	56	28,669
75-79	0	0	58	28,243
80-84	0	0	85	29,820
85-89	0	0	61	30,180
90-94	0	0	31	32,560
95-99	0	0	9	31,640
<u>100 and over</u>	0	0	1	21,696
<b>Total</b>	<b>48</b>	<b>\$9,553</b>	<b>463</b>	<b>\$27,841</b>

Disabled	District Count	Average District Benefit	Total Count	Combined District and Fed Benefit
Under 35	1	\$21,492	1	\$21,492
35-39	4	23,643	4	30,174
40-44	7	17,676	7	23,373
45-49	6	24,244	8	31,835
50-54	10	19,008	22	33,812
55-59	20	9,583	51	43,800
60-64	6	2,268	54	45,388
65-69	0	0	84	47,424
70-74	0	0	74	48,346
75-79	0	0	49	48,193
80-84	0	0	52	54,731
85-89	0	0	34	55,563
90-94	0	0	21	59,009
95-99	0	0	2	78,870
<u>100 and over</u>	0	0	0	0
<b>Total</b>	<b>54</b>	<b>\$14,456</b>	<b>463</b>	<b>\$47,611</b>

Terminated Vested	District Count	Average District Benefit	Total Count	Combined District and Fed Benefit
Under 35	3	\$6,967	3	\$6,967
35-39	2	12,923	2	17,713
40-44	6	6,945	6	11,339
45-49	9	15,945	9	27,725
50-54	9	10,475	9	29,795
55-59	1	22,993	1	50,584
60-64	0	0	0	0
65-69	0	0	0	0
70-74	0	0	0	0
75-79	0	0	0	0
80-84	0	0	0	0
85-89	0	0	0	0
90-94	0	0	0	0
95-99	0	0	0	0
<u>100 and over</u>	0	0	0	0
<b>Total</b>	<b>30</b>	<b>\$11,639</b>	<b>30</b>	<b>\$23,087</b>

**Appendix C:**  
**Teachers Corrections Documentation**



**Eastern Region – Philadelphia**  
5 Cold Spring Lane  
Media, PA 19063

**Gregory M. Stump, FSA**  
**Vice President**  
(484) 442-8337 (telephone)  
(484) 442-8341 (facsimile)  
gstump@efi-actuaries.com

January 16, 2009

Mr. James Sandman  
General Counsel, District of Columbia Public Schools  
825 North Capitol Street, NE, 9<sup>th</sup> Floor  
Washington, DC 20002

Re: Teachers Plan Operational Failures – Update of Actuarial Impact as of 10/1/2008

Mr. Sandman:

In a letter to Dr. Thelma Monk dated November 28, 2007 (copy attached), EFI Actuaries (EFI) provided the District of Columbia Public Schools (DCPS) with an initial estimate of the actuarial impact on the District of Columbia Teachers' Retirement Fund (the Fund) of coding errors dealing with the erroneous tracking of employees under various retirement programs. The purpose of this letter is to provide a summary of the updated final calculations done by EFI in connection with the DCPS operational failures corrections.

### **Background**

In January of 2007, EFI was procured by DCPS in connection with a set of operational failures that had recently been discovered. The operational failures involved DCPS employees' records reflecting an incorrect retirement plan at some point during their career. The Fund was affected because the amounts of employee and employer contributions deposited into the Fund did not accurately reflect the Plan population. This involved participants contributing too much or too little to the Fund, as well as not accounting for the appropriate group of participants as part of the annual actuarial valuation to determine annual employer contributions.

During 2006 and 2007, efforts to correct these operational failures were undertaken. One of the necessary steps was to ensure that the database system (CAPPS) was altered to accurately reflect the correct retirement plan code for all DCPS employees. It is our understanding that these corrections have been made, and that an ongoing process has been established to greatly reduce or eliminate the possibility of future operational failures.

### **Summary of Actuarial Impact**

#### **Employer Contributions**

A reasonable method to estimate the impact of the corrections is to determine the amount of contributions that would have theoretically been accumulated on behalf of each affected employee. This is known as the actuarial accrued liability, or past service liability. For

employees who were erroneously included in past valuations, these amounts were theoretically contributed, but should not have been contributed. For members who were erroneously *excluded* from past valuations, these amounts were not contributed, but theoretically *should have been* contributed. In addition, there are a number of cases where the employees were appropriately included in the actuarial valuation, but under an incorrect benefit tier.

The funding method currently used by the Plan to determine employer contributions is commonly known as the Aggregate Method. This method does not explicitly define accrued liabilities as described above. Therefore, the Entry Age Normal method was used to complete this calculation. This method is required to be used by the Plan to determine accrued liabilities for disclosure purposes under current Governmental Accounting Standards.

### Employee Contributions

To estimate the impact on the Fund of erroneous employee contributions, EFI collected from the D.C. Office and Pay and Retirement Services (OPRS), individual data regarding corrected records and bi-weekly contributions, as well as information related to participants on the list of those affected by coding errors, who have since terminated their employment with DCPS.

The incorrect and correct amounts of employee contributions were determined by OPRS on an individual basis. EFI did not verify historical pay or contribution amounts or timing of such, but did review the individual records and found the OPRS information to be reasonable. We computed the aggregate amount underpaid for all affected employees, after eliminating contributions for employees who terminated prior to vesting.

The results of the original calculations and subsequent adjustments are shown and described in the table below.

		Actuarial Value
1.	Estimated Net Employer Contribution Shortfall: Net Increase in Actuarial Accrued Liability as of 10/1/2007 (11/28/07 letter)	5,538,000
2.	Estimated Member Contribution Shortfall, with Interest to 10/1/2007 (11/28/07 letter)	1,926,095
3.	Adjustment for members included in (1) and (2) above who have since terminated without vesting	(376,075)
4.	Adjustment for additional member contribution shortfall (Phase II group)	193,749
<b>5.</b>	<b>Subtotal, as of 10/1/2007 (1)+(2)+(3)+(4)</b>	<b>7,281,769</b>
6.	Interest to 10/1/2008 at 7.5%	546,133
<b>7.</b>	<b>TOTAL Impact (5)+(7)</b>	<b>7,827,902</b>
8.	3-Year amortization amount at 7%/year, payments beginning 10/1/2009 divided by amortization factor	2,982,835

Mr. James Sandman  
January 16, 2009

\* \* \* \* \*

Please contact me if you have any questions regarding the calculations presented herein.

Sincerely,

A handwritten signature in black ink that reads "Gregory M. Stump". The signature is written in a cursive style with a large initial "G".

Gregory M. Stump, FSA

cc: Mr. Eric Stanchfield - DC Retirement Board  
Ms. Joan Passerino - DC Retirement Board  
Ms. Sheila Morgan-Johnson – DC Retirement Board  
Ms. Erie Sampson - DC Retirement Board  
Board Members - DC Retirement Board

Enclosure



**Eastern Region – Philadelphia**  
5 Cold Spring Lane  
Media, PA 19063

**Gregory M. Stump, FSA**  
**Vice President**  
(484) 442-8337 (Telephone)  
(484) 442-8341 (Facsimile)  
gstump@efi-actuaries.com

November 28, 2007

Dr. Thelma Monk  
Interim Executive Director  
District of Columbia Public Schools  
825 North Capitol Street, NE, 9<sup>th</sup> Floor  
Washington, DC 20002

Re: Teachers Plan Operational Failures – Summary of Actuarial Impact

Dr. Monk:

This letter contains a summary of the calculations done by EFI Actuaries in connection with the District of Columbia Public Schools (DCPS) operational failures corrections dealing with the erroneous tracking of employees under various retirement programs. During the affected time periods of the operational failures, the District of Columbia Teachers' Retirement Fund (the Fund) has been affected due to improper amounts of employee and employer contributions. The purpose of this study is to determine the overall actuarial impact on the Fund. For that reason, it only concerns operational failures that directly related to the Teachers' Retirement Plan (the Plan).

### **Background**

In January of 2007, EFI was procured by DCPS in connection with a set of operational failures that had recently been discovered. The operational failures involved DCPS employees' records reflecting an incorrect retirement plan at some point during their career. The Fund was affected because the amounts of employee and employer contributions going into the Fund did not accurately reflect the Plan population. This involved participants contributing too much or too little to the Fund, as well as not accounting for the appropriate group of participants as part of the annual actuarial valuation.

During 2006 and 2007, efforts to correct these operational failures were undertaken. One of the necessary steps was to ensure that the database system (CAPPs) was altered to accurately reflect the correct retirement plan code for all DCPS employees. It is our understanding that these corrections have been made, and that an ongoing process will be established to greatly reduce or eliminate the possibility of future operational failures.

### **Summary of Operational Failures**

The operational failures affecting the Teachers' Plan (the Plan) come under several categories, as summarized in Table 1 below. Note that many of the operational failures were temporary. In other words, some employees were miscoded for only a part of their career. The years affected by operational failures were determined by the DC Office of Pay and Retirement Services (OPRS) based on payroll records.

**Table 1: Summary of Operational Failures**

Category	Number Affected
Coded for Teachers' Retirement Plan, but should not have been	44
Not Coded for Teachers' Retirement Plan, but should have been	310
Correctly in Teachers' Retirement Plan, but with incorrect contribution amount	98
Total	452

The actuarial impact of each of these is described below.

#### **Actuarial Calculations – Employer Contributions**

In order to determine the actuarial impact on the employer contributions, it is first necessary to establish a calculation method. Actuarial funding methods (a.k.a. cost methods) are generally designed to fund the cost of expected benefits (retirement, disability, death) over the active careers of plan participants. As shown above, many DCPS employees have not been properly accounted for as part of the historical actuarial valuations. Therefore, the contributions paid by the District should have been different than the amounts actually paid to the Fund.

A reasonable method to estimate the impact of the corrections is to determine the amount of contributions that would have theoretically been accumulated on behalf of each affected employee. This is known as the actuarial accrued liability, or past service liability. For employees who were erroneously included in the valuation, these amounts were theoretically contributed, but should not have been contributed. For members who were erroneously *excluded* from the valuation, these amounts were not contributed, but theoretically *should have been* contributed. In addition, there are a number of cases where the employees were included in the actuarial valuation, but under an incorrect benefit tier.

The funding method currently used by the Plan to determine employer contributions is known as the Aggregate Method. This method does not explicitly define accrued liabilities as described above. Therefore, an alternate funding method must be used to complete this calculation. A reasonable candidate for this is the Entry Age Normal method. It is the method required to be used by the Plan to determine accrued liabilities for disclosure purposes under current Governmental Accounting Standards.

The net result of these calculations is that an additional \$5.5 million should have theoretically been contributed had the correct data always been in place. Table 2 represents a summary of the accrued liability calculations. The assumptions used are the same as were used for the most recently completed actuarial valuation, as of October 1, 2006. Note that many of the 310 people who were incorrectly coded as not being in the Plan were either temporarily miscoded and were already accounted for as part of the last actuarial valuation, or have terminated without a vested benefit. No adjustment in accrued liability is necessary for these individuals.

**Table 2: Summary of Actuarial Impact**

Category	Change in Entry Age Normal Accrued Liability as of 10/1/2006
Added to actuarial valuation	\$ 7,070,000
Removed from actuarial valuation	(4,553,000)
Change in Tier/Contribution Rate	2,647,000
Net impact as of valuation date	\$ 5,164,000
Net impact with interest to October 1, 2007	\$ 5,538,000

**Actuarial Calculations - Individual Corrections**

To estimate the impact on the Fund of erroneous employee contributions, we collected individual data regarding corrected records from OPRS. The incorrect and correct amounts of contributions were determined by OPRS on an individual basis. EFI did not verify historical pay or contribution amounts or timing of such, but did evaluate the individual records and found the OPRS calculations to be reasonable.

The impact on the Fund must consider the time value of money – if correct contributions had been paid when they were due, they would have accrued investment income. The following represents a summary of the individual calculations.

**Table 3: Summary of Individual Calculations**

Category	Number Affected	Total Contribution Difference	Total Contribution Difference with Interest to 10/1/2007
Actual employee contributions exceed corrected amount (employee overpaid)	89	\$266,572	\$347,603
Active Employees and Terminated Vested Members: Actual employee contributions less than corrected amount (employee underpaid)	170	1,541,901	1,926,095
Non-Vested Terminated Employees: Actual employee contributions less than corrected amount (employee underpaid)	56	171,385	208,458

The interest adjusted amounts above represent preliminary estimates. The interest rate used for these calculations was the current valuation interest rate of 7.25%. For example, if a contribution of \$100 should have been collected on 10/1/1999, the interest adjusted amount of this contribution as of 10/1/2007 would be \$175 (\$100 with 8 years of interest at 7.25%). A more refined estimate will be determined by using actual returns of the Fund over the affected time periods.

Dr. Thelma Monk  
November 28, 2007

Individual correction methods for the amounts overpaid and underpaid have yet to be determined. For the 56 non-vested terminated participants who underpaid (last row above), it would stand to reason that there is no corrective action needed. This is because the only benefit they would be entitled to is a refund of contributions. OPRS has also indicated that FICA refunds were collected on behalf of some participants in 2007. The total of these amounts is \$599,594, according to the individual records.

A further breakdown of the individual amounts is shown in Table 4 below.

**Table 4: Summary of Individual Amounts**

Interest Adjusted Amount	Number Who Overpaid	Number Who Underpaid (excluding Non-vested Terminations)
Less than \$1,000	13	27
\$1,000 - \$5,000	41	55
\$5,000 - \$10,000	35	30
More than \$10,000	0	58*

\* average \$26,000

#### **Additional Calculations**

Considering all known corrections as determined from information provided by DCPS and OPRS, we have estimated the total actuarial impact to be approximately \$7.464 million (\$5.538 million from Table 2 plus \$1.926 million from Table 3). It is important to note that any additional amounts contributed to the Fund as a result of this analysis will improve the funding of the Plan, and thereby decrease future required contributions.

A number of corrections continued to be made by DCPS during 2007. As of the date of this letter, 99 additional records have been corrected. The impact of these corrections on the employer contributions (accrued liabilities) has already been determined and is reflected in Table 2. Phase II of the corrections project will involve assessing the impact of erroneous employee contributions (including the 99 additional corrections) based on actual Fund returns, as mentioned above. A separate letter has been sent requesting the necessary additional information. The result of this "Phase II" analysis will be similar to Tables 3 and 4 herein.

Sincerely,



Gregory M. Stump, FSA

cc: Mr. Eric Stanchfield, DC Retirement Board  
Ms. Constance Donovan, DC Retirement Board  
Ms. Joan Passerino, DC Retirement Board  
Board Members, DC Retirement Board  
Ms. Johnetta Bond, DC Office of Pay and Retirement Services  
Mr. David Powell, Groom Law