

**SEATTLE CITY EMPLOYEES'  
RETIREMENT SYSTEM**

**ACTUARIAL VALUATION  
JANUARY 1, 2006**





May 24, 2006

Board of Administration  
Seattle City Employees' Retirement System  
720 Third Ave., #1000  
Seattle, WA 98104

**RE: January 1, 2006 Actuarial Report**

Dear Members of the Board:

This report summarizes the results of the January 1, 2006 actuarial valuation for the Seattle City Employees' Retirement System.

This valuation is based on the financial and member data provided by the System and the plan provisions, actuarial assumptions and methods in effect on the valuation date.

No material changes in the plan provisions were made during 2004 or 2005. A summary of the plan provisions is included as Appendix B. There was a change made to the postretirement mortality assumption since the last actuarial valuation was performed. In 2005, the Board approved removing the one-year set-forward to the mortality rate assumption for female service retirees, as recommended by Buck Consultants.

All other actuarial assumptions used in the 2004 actuarial valuation remain unchanged. The valuations were completed in accordance with generally accepted actuarial methods.

Respectfully submitted,

Michael Moehle, F.S.A.  
Principal and Consulting Actuary

Eva Yum, F.S.A.  
Director and Consulting Actuary

Enclosure



**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**ACTUARIAL VALUATION – JANUARY 1, 2006**

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**TABLE OF CONTENTS (CONT'D)**

<b>Appendix A</b>	<b>Actuarial Procedures and Assumptions.....</b>	<b>27</b>
	Table A-1 Summary of Valuation Assumptions .....	31
	Table A-2 Future Salaries .....	32
	Table A-3 Retirement.....	33
	Table A-4 Disability.....	34
	Table A-5 Mortality .....	35
	Table A-6 Other Terminations of Employment Among Members Not Eligible to Retire.....	36
	Table A-7 Vesting .....	37
<b>Appendix B</b>	<b>Provisions of Governing Law.....</b>	<b>38</b>
<b>Appendix C</b>	<b>Valuation Data .....</b>	<b>43</b>
	Table C-1 Summary of Membership Data.....	44
	Table C-2 Members Receiving Service Retirement Benefits as of January 1, 2006 .....	45
	Table C-3 Members Receiving Disability Retirement Benefits as of January 1, 2006 .....	46
	Table C-4 Survivors Receiving Retirement Benefits as of January 1, 2006 .....	47
	Table C-5 Distribution of Employees and Salaries as of January 1, 2006 .....	48
<b>Appendix D</b>	<b>Comparative Schedules .....</b>	<b>50</b>
	Table D-1 Membership Data.....	51
	Table D-2 Contribution Rates .....	52
<b>Appendix E</b>	<b>Glossary .....</b>	<b>53</b>

# SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM

## ACTUARIAL VALUATION – JANUARY 1, 2006

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### SECTION I

#### SUMMARY OF THE FINDINGS

As a result of the actuarial valuation of the benefits in effect under the Seattle City Employees' Retirement System as of January 1, 2006, the current employer contribution rate, 8.03% of members' salaries, is sufficient to maintain current benefits, assuming future experience follows the actuarial assumptions.

The current contribution rates are sufficient to meet the actuarial cost of the System accruing on the valuation date. The actuarial costs are calculated using the entry age actuarial cost method. The recommended rate includes a small amount that, together with the required \$12 annual employee and \$12 matching employer contribution, finances the \$2,000 death benefit program.

On the basis of the January 1, 2004 actuarial valuation, there was an Unfunded Actuarial Accrued Liability (UAAL) and the funding ratio was 85.9%. On the basis of the January 1, 2006 actuarial valuation, there was still an Unfunded Actuarial Accrued Liability (UAAL) but the funding ratio has improved to 88.8%. A summary of the historical UAAL is shown on Graph 1 and 2. A net actuarial gain occurred during the past two years. The net gain resulted from the difference between actual and expected experience over the past two years, primarily asset returns greater than our assumed rate of return (a \$55 million gain).

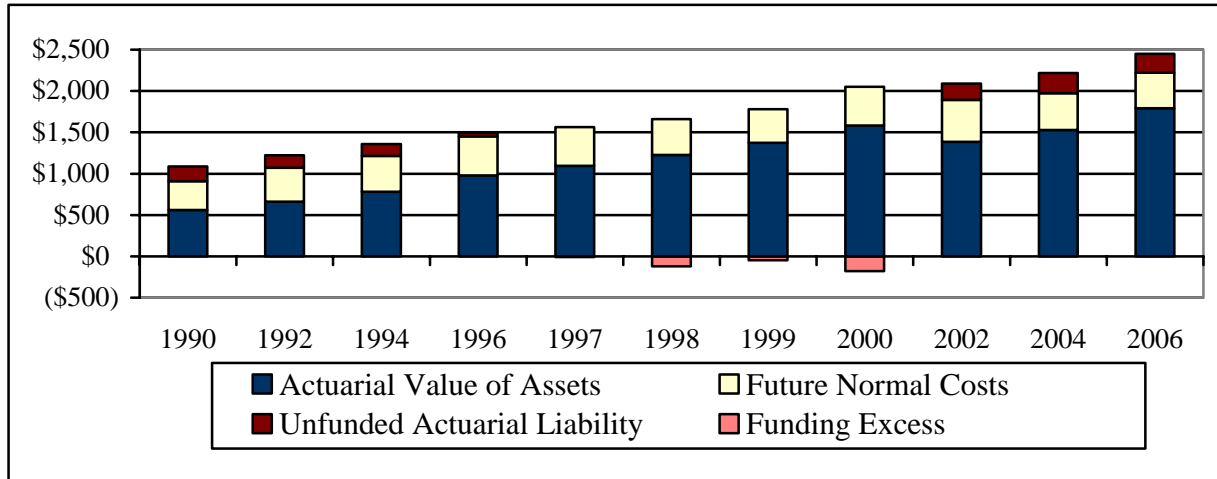
All assumptions for the January 1, 2006 actuarial valuation are unchanged from those used for the January 1, 2004 actuarial valuation, except that the mortality assumption for female service retirees was changed from the 1994 Group Annuity Table for females with a one-year set-forward to the 1994 Group Annuity table for females with no adjustment. This change was the result of the 2005 mortality experience study conducted by Buck Consultants.

The Seattle Municipal Code allows for future increases in the cost-of-living adjustments (COLA) available to current and future retired members. These enhanced COLA benefits do not become effective until the System attains at least a 95% funding level. Since it is unknown when these benefits will become effective, we have not included them in the valuation. However, in Section 9, we have shown the hypothetical cost impact if the increased benefits had been in effect on the valuation date.

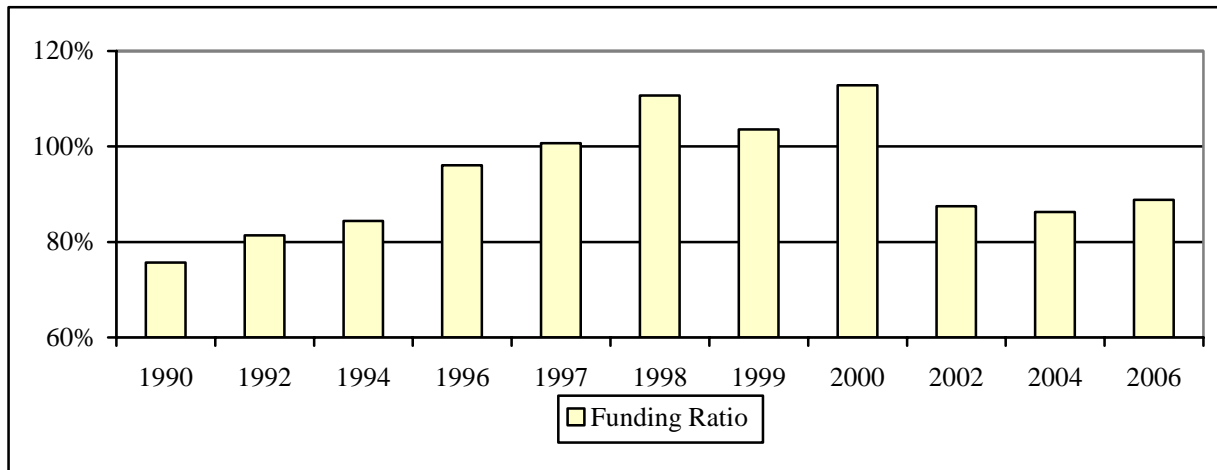
## SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM ACTUARIAL VALUATION – JANUARY 1, 2006

### HISTORICAL ASSET & LIABILITY COMPARISON AND HISTORICAL FUNDING RATIOS

**Graph 1 – Historical Asset & Liability Comparison**



**Graph 2 – Historical Funding Ratios**



<i>(in Millions)</i>					
Year	PVB	Assets	PVFNC	UAAL	Funding Ratio
1990	\$ 1,087.5	\$ 558.8	\$ 349.6	\$ 179.1	75.7%
1992	1,221.2	660.0	410.7	150.5	81.4%
1994	1,358.9	781.8	432.7	144.4	84.4%
1996	1,492.0	980.2	472.3	39.5	96.1%
1997	1,557.3	1,094.8	470.0	(7.5)	100.7%
1998	1,539.3	1,224.6	433.5	(118.8)	110.7%
1999	1,731.9	1,375.0	405.3	(48.4)	103.6%
2000	1,872.4	1,582.7	469.3	(179.6)	112.8%
2002	2,088.7	1,383.7	507.3	197.7	87.5%
2004	2,229.8	1,527.5	450.9	251.4	85.9%
2006	2,448.5	1,791.8	431.0	225.8	88.8%

# SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM

## ACTUARIAL VALUATION – JANUARY 1, 2006

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### SECTION II

#### SCOPE OF THE REPORT

This report presents the actuarial valuation of the Seattle City Employees' Retirement System as of January 1, 2006.

A summary of the findings resulting from this valuation is presented in the previous section. Section 3 describes the assets of the System. A summary of the assets is set forth in Table 1. Sections 4 and 5 describe how the obligations of the System are to be met under the actuarial cost method in use.

Section 6 discloses actuarial information based on the requirements of Statements No. 25 and 27 of the Governmental Accounting Standards Board. Section 7 sets forth estimated actuarial gains or losses from the various sources. Section 8 shows the System's historical cash flows for the last 10 years and the projected cash flows for the next 10 years.

Section 9 shows the hypothetical cost impact of the contingent COLA benefits, had they been in effect on the valuation date.

Appendix A is a summary of the actuarial procedures and assumptions used to compute the liabilities and contributions shown in this report.

The current benefit structure, as determined by the provisions of the governing law on January 1, 2006, is summarized in Appendix B. Schedules of valuation data classifying the data used in the valuation by various categories of contributing members, former contributing members, and beneficiaries make up Appendix C.

Appendix D provides a brief summary of the System's recent experience. Comparative statistics are presented on the System's membership and contribution rates. Appendix E is a glossary of actuarial terms used in this report.

In preparing our report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, statutory provisions, employee data, and financial information. The participant data used for the valuation were submitted by the staff on computer files. In our examination of these data, we found them to be reasonably consistent and comparable with data used in prior valuations.

We believe the actuarial assumptions used in the valuation, as summarized in Appendix A, are reasonably related to the experience of the System. They represent our best estimate of future conditions affecting the System. In choosing those assumptions and preparing this report, we have conformed to generally recognized and accepted actuarial principles and practices which are consistent with principles prescribed by the Actuarial Standards Board (ASB) and the Code of Professional Conduct and Qualification Standards for Public Statements of Actuarial Opinion of the American Academy of Actuaries. In particular, we believe the assumptions meet the requirements of the Actuarial Standard of Practice No. 27: Selection of Economic Assumptions for Measuring Pension Obligations and Actuarial Standard of Practice No. 35: Selection of Demographic Assumptions.

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**ACTUARIAL VALUATION – JANUARY 1, 2006**

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**SECTION III**  
**ASSETS**

The actuarial valuation considers System assets as well as liabilities. Assets are measured as of the actuarial valuation date, January 1, 2006.

This section of the report deals with the asset determination. Table 1 summarizes the financial resources of the System, and shows the market value of assets at January 1, 2004 and January 1, 2006. The actuarial value of assets is equal to the market value.



TABLE 1

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**ACTUARIAL VALUATION – JANUARY 1, 2006**

**SUMMARY OF ASSETS**

	January 1, 2004		January 1, 2006	
	<u>Market Value</u>	<u>Distribution</u>	<u>Market Value</u>	<u>Distribution</u>
<b>Assets</b>				
Cash and short-term investments	\$ 193,038,890	12.6%	\$ 181,828,741	10.1%
<b>Receivables</b>				
Employee	\$ 1,916,304	0.1%	\$ 1,303,174	0.1%
Employer	169,642	0.0	3,635,802	0.2%
Interest and dividends	<u>2,751,635</u>	<u>0.2</u>	<u>1,928,447</u>	<u>0.1%</u>
Total receivables	4,837,581	0.3	6,867,423	0.4%
<b>Investments, at fair value</b>				
U.S. Government obligations	\$ 179,339,010	11.7%	\$ 115,261,542	6.4%
Domestic corporation bonds	138,205,814	9.0	102,019,474	5.7%
Domestic stocks	753,245,378	49.3	900,993,088	50.3%
International stocks	172,920,787	11.3	201,640,801	11.3%
International bonds	11,355	0.0	0	0.0%
Mortgages	52,915	0.0	0	0.0%
Real estate	114,774,442	7.5	187,813,953	10.5%
Alternative/Venture capital	126,300,602	8.3	207,185,142	11.6%
Mezzanine Debt	<u>0</u>	<u>8.3</u>	<u>19,015,772</u>	<u>1.1%</u>
Total investments	\$ 1,484,850,303	97.2%	\$ 1,733,929,772	96.8%
Equipment, at cost, net of accumulated depreciation of \$198,176 and \$197,831, respectively	\$ 5,185	0.0%	\$ 3,654	0.00%
Total assets	\$ 1,682,731,959	110.2%	\$ 1,922,629,590	107.3%
<b>Liabilities</b>				
Refunds payable and other	\$ 6,993,952	(0.5)%	\$ 8,002,610	(0.4)%
Securities lending collateral	<u>148,226,605</u>	<u>(9.7)</u>	<u>122,862,720</u>	<u>(6.9)%</u>
Total liabilities	\$ 155,220,557	(10.2)%	\$ 130,865,330	(7.3)%
<b>Market Value of Net Assets Held in Trust for Pension Benefits*</b>				
	<b>\$ 1,527,511,402</b>	<b>100.0%</b>	<b>\$ 1,791,764,260</b>	<b>100.0%</b>

\* Actuarial value of assets is equal to market value.

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**ACTUARIAL VALUATION – JANUARY 1, 2006**

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**SECTION IV**  
**ACTUARIAL LIABILITIES**

The actuarial valuation considers the benefit obligation of the System as of the valuation date. This section reports on these actuarial liabilities.

Table 2 contains an analysis of the actuarial present value of all future benefits for contributing members, for former contributing members, and for beneficiaries. The analysis is given by type of benefit.

The actuarial liabilities summarized in Table 2 include the actuarial present value of all future benefits expected to be paid with respect to each member. For an active member, this value includes a measure of benefits already earned and future benefits to be earned. Thus, for all members, active and retired, the value extends over benefits earnable and payable for the rest of their lives and, if an optional benefit is chosen, for the lives of their surviving beneficiaries.

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**ACTUARIAL VALUATION – JANUARY 1, 2006**

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**ACTUARIAL PRESENT VALUE OF FUTURE BENEFITS FOR CONTRIBUTING  
MEMBERS, FORMER CONTRIBUTING MEMBERS, AND BENEFICIARIES**

(All amounts are actuarial present values in millions)

	January 1, 2004	January 1, 2006
A. Active members		
Service retirement	\$ 1,365.5	\$ 1,423.8
Vested retirement	34.1	38.1
Disability retirement	11.6	11.7
Survivors' benefits	23.6	24.4
Refund of member contributions	<u>36.1</u>	<u>48.3</u>
Total	\$ 1,470.9	\$ 1,546.3
B. Inactive members and annuitants		
Service retirement	\$ 607.2	\$ 718.8
Disability retirement	5.8	7.0
Beneficiaries	63.7	70.8
Vested terminated members	<u>82.2</u>	<u>105.6</u>
Total	\$ 758.9	\$ 902.2
C. Grand Total	\$ 2,229.8	\$ 2,448.5

# SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM

## ACTUARIAL VALUATION – JANUARY 1, 2006

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### SECTION V

#### EMPLOYER CONTRIBUTIONS

As shown in Tables 1 and 2, the total actuarial liability exceeds the current assets. This is to be expected, because the System is anticipating future member and employer contributions. The actuarial valuation develops a contribution rationale to fund this shortfall.

The actuarial cost method utilized is the *Entry Age Actuarial Cost Method*. This cost method has two components:

1. A normal cost, and
2. An amortization of unfunded actuarial accrued liability.

Most actuarial cost methods utilize a cost method with these two components. The vast majority of public pension plans utilize the entry age (EA) actuarial cost method, as does this System.

The normal cost under EA is developed so that benefits are funded as a level percentage of payroll for each member from the member's hire date to the member's termination date. One key feature of this method is that costs tend to be stable from year-to-year because most members' entry age cost percentages do not change materially from year-to-year, and because the population does not change considerably from year-to-year. Normal costs by benefit type are shown in Table 3.

When the present value of future normal costs is subtracted from the present value of total benefits, the result is the actuarial accrued liability. This can also be thought of as the present value of past normal costs, or the amount which would be in the fund if all prior assumptions had been exactly met. To the extent that this actuarial accrued liability exceeds plan assets, an unfunded actuarial accrued liability (UAAL) exists. This is currently the situation for the System.

Because an UAAL exists, the total System costs must reflect an amortization of this UAAL. In general, an UAAL exists when liabilities increase more than anticipated, or assets increase less than anticipated. Both have occurred in the past few years as benefits were improved and investment returns fell short of expectations.

When experience is different from actuarial expectation, an actuarial gain or loss occurs. Section 7 illustrates the historical actuarial gains and losses by source. Note that the strong investment return during 2004 and 2005 resulted in an actuarial gain of \$55 million. Ongoing actuarial gains and losses decrease and increase the UAAL.

Table 5 compares the 16.06% total contribution rate with the necessary funding components: normal cost and amortization of UAAL. The table shows that the total contribution rate exceeds the normal cost, with the remaining contribution going toward an amortization of the UAAL. The resultant amortization payment of 3.56% results in an amortization period of 18.0 years from January 1, 2006. Effective with the January 1, 2006 actuarial valuation, which is to be used for ARC calculations for the year commencing January 1, 2007, the maximum allowable amortization period is 30 years.

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**ACTUARIAL VALUATION – JANUARY 1, 2006**

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**SECTION V**  
**EMPLOYER CONTRIBUTIONS (CONT'D)**

For GASB reporting purposes, the total Actuarial Required Contribution (ARC) is equal to the normal cost rate plus an amortization of the UAAL. For the 2006 ARC, the maximum permissible amortization period is 40 years. For the 2007 ARC (which is determined based on the 2006 valuation), the maximum permissible period is 30 years. GASB will be discussed further in Section 6.

The current Retirement Board funding policy states that “if the Funding Ratio is less than 100% and an Unfunded Actuarial Accrued Liability (UAAL) occurs which can not be amortized over a period of less than 20 years by the combined total contribution rates, additional employer contributions may be considered.” The remaining amortization period is now 18.0 years.

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM  
ACTUARIAL VALUATION – JANUARY 1, 2006**

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**NORMAL COST CONTRIBUTION RATES AS PERCENTAGES OF SALARY**

	<b>January 1, 2004</b>	<b>January 1, 2006</b>
Service retirement	9.96%	9.21%
Vested retirement	0.85	0.82
Disability retirement	0.17	0.16
Survivors' benefits	0.16	0.15
Refund of member contributions	1.56	1.81
Administrative expenses	<u>0.35</u>	<u>0.35</u>
Total	13.05%	12.50%

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**ACTUARIAL VALUATION – JANUARY 1, 2006**

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**UNFUNDED ACTUARIAL ACCRUED LIABILITY**  
 (All dollar amounts in millions)

	<b>January 1, 2004</b>	<b>January 1, 2006</b>
A. Actuarial present value of all future benefits for present and former members and their survivors (Table 2)	\$ 2,229.8	\$ 2,448.5
B. Less actuarial present value of total future normal cost for present members	<u>450.9</u>	<u>431.0</u>
C. Actuarial accrued liability [A – B]	\$ 1,778.9	\$ 2,017.5
D. Less actuarial value of assets available for benefits (Table 1)	<u>1,527.5</u>	<u>1,791.8</u>
E. Unfunded actuarial accrued liability (Funding excess, if negative) [C – D]	\$ 251.4	\$ 225.8
F. Funding ratio [D ÷ C]	85.9%	88.8%

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM  
ACTUARIAL VALUATION – JANUARY 1, 2006**

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**RECOMMENDED CONTRIBUTION RATES AS PERCENTAGES OF SALARY**

	<b>January 1, 2004</b>	<b>January 1, 2006</b>
A. Employer contribution rate	8.03%	8.03%
B. Member contribution rate	<u>8.03</u>	<u>8.03</u>
C. Total contribution rate	16.06%	16.06%
D. Less total normal cost rate (Table 3)	<u>13.05</u>	<u>12.50</u>
E. Excess of contribution rate over normal cost rate	3.01%	3.56%
F. Amortization period	30.2 years	18.0 years
G. Allocation of employer contribution rate*		
Normal cost	5.02%	4.47%
Amortization payment	<u>3.01</u>	<u>3.56</u>
	8.03%	8.03%

\* *If member contributions are all allocated to paying normal cost.*



# SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM

## ACTUARIAL VALUATION – JANUARY 1, 2006

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### SECTION VI

#### ACTUARIAL INFORMATION FOR ACCOUNTING PURPOSES

The Governmental Accounting Standards Board (GASB) has issued standards under Statements No. 25 and 27. Statement 25 is required reporting by the plan (the System) and Statement 27 is reporting by state and local governmental employers (the City).

Statement 25 included certain supplementary information:

1. A schedule of funding progress, and
2. A schedule of employer contributions.

The schedule of funding progress is shown in Table 7 and compares assets and liabilities over the years. In particular, it shows the funded ratio and Unfunded Actuarial Accrued Liability (UAAL). As shown by Table 7, the plan was fully funded or nearly fully funded from 1996 through 2000. Because of the poor investment returns of 2000 through 2003, the plan remains not fully funded. In this case, “fully funded” means that assets exceed actuarial accrued liabilities, so that no positive UAAL exists. This can also be seen as a funded ratio in excess of 100%.

The schedule of employer contributions is shown in Table 9, and shows that the employer has consistently made contributions equal or greater to the ARC.

Table 6 develops the Annual Pension Cost (APC) and Net Pension Obligation (NPO). The NPO can be thought of as the accumulated value of APC in excess of employer contributions. Because contributions have exceeded the APC in prior years, a negative NPO has built up. The current Board policy is to set the Actuarial Required Contribution (ARC) equal to the fixed contribution rate, solving for the amortization period.

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**ACTUARIAL VALUATION – JANUARY 1, 2006**

**GASB STATEMENT NO. 27**  
**ANNUAL PENSION COST AND NET PENSION OBLIGATION**

For Fiscal Year Ending December 31, 2005  
Based on January 1, 2004 Valuation

	<b>Fiscal Year Ended December 31</b>	
	<b>2004</b>	<b>2005</b>
1a Total Normal Cost Rate	13.05%	13.05%
1b Employee Contribution Rate	8.03%	8.03%
1c Employer Normal Cost Rate (1a – 1b)	5.02%	5.02%
2a Total Employer Contribution Rate	8.03%	8.03%
2b Amortization Payment Rate (2a – 1c)	3.01%	3.01%
2c Amortization Period	30.2	30.2
2d GASB 27 Amortization Rate	3.01%	3.01%
3 Total Annual Required Contribution (ARC) Rate (1c + 2d)	8.03%	8.03%
4 Covered Employee Payroll**	456,808,182	447,040,411
5a ARC (3 x 4)	36,681,697	35,897,345
5b Interest on Net Pension Obligation (NPO)	(5,773,805)	(5,910,271)
5c ARC Adjustment	4,012,944	4,107,791
5d Annual Pension Cost (APC) (5a + 5b + 5c)	34,920,836	34,094,865
6 Employer Contribution	36,681,697	35,897,345
7a Change in NPO (5d – 6)	(1,760,861)	(1,802,480)
7b NPO at Beginning of Year	(74,500,706)	(76,261,567)
7c NPO at End of Year (7a + 7b)	(76,261,567)	(78,064,047)

\* If the amortization period determined by the actual contribution rate exceeds the maximum amortization period required by GASB Statement No. 27, the ARC is determined using an amortization of the Funding Excess over 30 years.

\*\* Covered payroll includes compensation paid to all active employees on which contributions were made in the year preceding the valuation date.

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**ACTUARIAL VALUATION – JANUARY 1, 2006**

**SCHEDULE OF FUNDING PROGRESS**  
 (All dollar amounts in millions)

Actuarial Valuation Date January 1	Actuarial Value of Assets	Actuarial Accrued Liabilities (AAL) <sup>(1)</sup>	Unfunded Actuarial Accrued Liabilities (UAAL) <sup>(2)</sup>	Funded Ratio	Covered Payroll <sup>(3)</sup>	UAAL as a Percentage of Covered Payroll
1984	\$ 329.8	\$ 544.0	\$ 214.2	60.6%	\$ 159.4	134.4%
1986	395.7	561.3	165.6	70.5	182.0	91.0
1988	445.4	595.3	149.9	74.8	199.0	75.3
1990	558.8	737.9	179.1	75.7	212.3	84.4
1992	660.0	810.5	150.5	81.4	239.4	62.9
1994	781.8	926.2	144.4	84.4	291.8	49.5
1996	980.2	1,019.7	39.5	96.1	310.6	12.7
1997	1,094.8	1,087.3	(7.5)	100.7	316.9	(2.4)
1998 <sup>(4)</sup>	1,224.6	1,266.7	42.1	96.7	341.5	12.3
1999	1,375.0	1,326.6	(48.4)	103.6	370.4	(13.1)
2000	1,582.7	1,403.1	(179.6)	112.8	383.6	(46.5)
2002	1,383.7	1,581.4	197.7	87.5	405.1	48.8
2004	1,527.5	1,778.9	251.4	85.9	424.7	59.2
2006	1,791.8	2,017.5	225.8	88.8	447.0	50.5

(1) Actuarial present value of benefits less actuarial present value of future normal costs based on Entry Age Actuarial Cost Method.

(2) Actuarial accrued liabilities less actuarial value of assets, Funding Excess if negative.

(3) Covered Payroll includes compensation paid to all active employees on which contributions are calculated. Covered Payroll differs from the Active Member Valuation Payroll shown in Exhibit 2, which is an annualized compensation of only those members who were active on the actuarial valuation date.

(4) Reflects increased COLA benefits adopted by the City Council after the valuation was completed.

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**ACTUARIAL VALUATION – JANUARY 1, 2006**

**SOLVENCY TEST**  
(All dollar amounts in millions)

Actuarial Valuation Date January 1	Actuarial Value of Assets	Actuarial Accrued Liabilities for				Total	Portion of Actuarial Accrued Liabilities Covered by Assets			
		(A)	(B)	(C)	(D)		(A)	(B)	(C)	(D)
		Active Member Contributions	Inactives, Retirees and Beneficiaries	Active Members (Employer Financed Portion)						
1984	\$ 329.8	\$ 90.1	\$ 243.0	\$ 210.9	\$ 544.0	100.0%	98.6%	0.0%	60.6%	
1986	395.7	110.7	263.1	187.5	561.3	100.0	100.0	11.7	70.5	
1988	445.4	136.0	303.6	155.7	595.3	100.0	100.0	3.7	74.8	
1990	558.8	164.0	332.8	241.1	737.9	100.0	100.0	25.7	75.7	
1992	660.0	202.6	357.9	250.0	810.5	100.0	100.0	39.8	81.4	
1994	781.8	248.4	383.1	294.7	926.2	100.0	100.0	51.0	84.4	
1996	980.2	294.1	409.3	316.3	1,019.7	100.0	100.0	87.5	96.1	
1997	1,094.8	313.1	449.8	324.4	1,087.3	100.0	100.0	100.0	100.7	
1998 <sup>(1)</sup>	1,224.6	337.3	551.8	377.6	1,266.7	100.0	100.0	88.9	96.7	
1999	1,375.0	358.4	577.6	390.6	1,326.6	100.0	100.0	100.0	103.6	
2000	1,582.7	385.2	599.4	418.5	1,403.1	100.0	100.0	100.0	112.8	
2002	1,383.7	434.3	675.6	471.5	1,581.4	100.0	100.0	58.1	87.5	
2004	1,527.5	482.5	758.9	537.5	1,778.9	100.0	100.0	53.2	85.9	
2006	1,791.8	539.7	902.2	575.6	2,017.5	100.0	100.0	60.8	88.8	

(1) Reflects increased COLA benefits adopted in 1998.

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM  
ACTUARIAL VALUATION – JANUARY 1, 2006**

**SCHEDULE OF EMPLOYER CONTRIBUTIONS  
(All dollar amounts in millions)**

<b>Fiscal Year Ending December 31</b>	<b>Covered Employee Payroll<sup>(1)</sup></b>	<b>Actual Employer Contributions<sup>(2)</sup></b>	<b>Actual Employer Contribution %<sup>(2)</sup></b>	<b>Annual Required Contribution (ARC) %<sup>(3)</sup></b>	<b>Percentage of ARC Contributed</b>
1989	\$ 212.3	\$ 19.0	8.91%	8.91%	100%
1990	243.2	21.8	8.91	8.91	100
1991	239.4	21.5	8.91	8.91	100
1992	280.4	25.1	8.91	8.91	100
1993	291.8	26.1	8.91	8.91	100
1994	298.0	26.7	8.91	8.91	100
1995	310.6	27.8	8.91	8.91	100
1996	316.9	28.4	8.91	8.91	100
1997	316.3	28.3	8.91	8.91	100
1998 <sup>(4)</sup>	341.5	30.6	8.91	8.91	100
1999	370.4	29.7	8.03	4.50	178
2000	383.6	30.8	8.03	4.50	178
2001	405.1	32.7	8.03	3.04	264
2002	454.5	36.6	8.03	3.04	264
2003	424.7	34.2	8.03	8.03	100
2004	456.8	36.7	8.03	8.03	100
2005	447.0	35.9	8.03	8.03	100

(1) Computed as the dollar amount of the actual employer contribution made as a percentage of payroll divided by the contribution rate, expressed as a percentage of payroll.

(2) The actual and required employer contributions are expressed as a percentage of payroll, after first recognizing the \$12 per employee assessment made for the death benefits. This assessment per employee is included in the actual employer contributions reported and has been previously recognized by the actuary in determining the ARC.

(3) The City makes employer contributions as a percentage of actual payroll as set in the City Ordinance. Thus, as long as the percentage equals the percentage required by the most recent actuarial valuation, the dollar amount of the Annual Required Contributions (ARC) is equal to the actual dollar amount of the employer contributions. The City Ordinance does not permit a reduction in the employer contribution rate less than the employee contribution rate. Thus, the City's contributions exceeded the ARC for 1999 through 2001 and resulted in a negative NPO amount.

(4) ARC reflects the increased COLA benefits adopted in 1998.

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM  
ACTUARIAL VALUATION – JANUARY 1, 2006**

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**GASB STATEMENT NO. 27 FIVE-YEAR TREND INFORMATION**

<b>Fiscal Year Ending</b>	<b>Annual Pension Cost (APC)</b>	<b>Contribution as a Percentage of APC</b>	<b>Net Pension Obligation (NPO)</b>
December 31, 2001	11,571,321	282%	(48,078,316)
December 31, 2002	12,495,606	293%	(72,182,540)
December 31, 2003	31,882,527	107%	(74,500,706)
December 31, 2004	34,920,836	105%	(76,261,567)
December 31, 2005	34,094,865	105%	(78,064,047)

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM  
ACTUARIAL VALUATION – JANUARY 1, 2006**

**GASB STATEMENT NO. 27 ANNUAL DEVELOPMENT OF PENSION COST**

<b>Fiscal Year Ending</b>	<b>ARC at EOY</b>	<b>Interest on NPO</b>	<b>ARC Adjustment</b>	<b>Annual Pension Cost (APC)</b>	<b>Total Employer Contributions</b>	<b>Change in NPO</b>	<b>NPO Balance*</b>	<b>Gain/Loss</b>	<b>Amort. Factor</b>	<b>Amort. Of Gain/Loss</b>	<b>Ending Balance</b>
December 31, 2001	12,313,993	(2,158,580)	1,415,908	11,571,321	32,667,381	(21,096,060)	(48,078,316)	(20,353,388)	19.05650	(1,415,908)	(48,078,316)
December 31, 2002	13,816,188	(3,846,265)	2,525,683	12,495,606	36,599,830	(24,104,224)	(72,182,540)	(22,783,642)	19.05650	(2,525,683)	(72,182,540)
December 31, 2003	34,100,457	(5,744,603)	3,556,673	31,882,527	34,200,693	(2,318,166)	(74,500,706)	(100,236)	19.05650	(3,556,673)	(74,500,706)
December 31, 2004	36,681,697	(5,773,805)	4,012,944	34,920,836	36,681,697	(1,760,861)	(76,261,567)	-	18.49780	(4,012,944)	(76,261,567)
December 31, 2005	35,897,345	(5,910,271)	4,107,791	34,094,865	35,897,345	(1,802,480)	(78,064,047)	-	18.49780	(4,107,791)	(78,064,047)

\*NPO at transition is zero.

Amortization Period: 30 years, Open  
Amortization Method: Level Percentage of Projected Payroll

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**ACTUARIAL VALUATION – JANUARY 1, 2006**

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**SECTION VII**  
**ACTUARIAL GAINS OR LOSSES**

An analysis of actuarial gains or losses was performed in conjunction with the January 1, 2000, January 1, 2002, January 1, 2004 and January 1, 2006 actuarial valuations.

The results of our analysis of the financial experience of the System in the four most recent actuarial valuations are presented in Table 12. Each gain or loss shown represents our estimate of how much the given type of experience caused the UAAL to change in the two-year period since the previous actuarial valuation.

Gains and losses due to demographic sources are approximate. Demographic experience is analyzed in greater detail in our periodic assumption studies.



TABLE 12

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**ACTUARIAL VALUATION – JANUARY 1, 2006**

**ANALYSIS OF ACTUARIAL GAINS OR LOSSES**  
 (All dollar amounts in millions)\*

	<b>Gain (Loss) for Period:</b>			
	<b>2004-2005</b>	<b>2002-2003</b>	<b>2000-2001</b>	<b>1998-1999</b>
<b>Investment Income.</b> Investment income was greater (less) than expected.	\$ 54.5	\$ (64.0)	\$ (438.8)	\$ 170.5
<b>Pay Increases.</b> Pay increases were less (greater) than expected.	23.0	16.1	13.6	28.1
<b>Age and Service Retirements.</b> Members retired at older (younger) ages or with less (greater) final average pay than expected.	(6.2)	(14.5)	0.3	(0.6)
<b>Disability Retirements.</b> Disability claims were less (greater) than expected.	(0.3)	(0.5)	(0.4)	(0.3)
<b>Death-in-Service Benefits.</b> Survivor claims were less (greater) than expected.	0.9	(0.5)	0.0	0.0
<b>Withdrawal from Employment.</b> More (less) reserves were released by withdrawals than expected.	(8.1)	14.0	6.0	(0.8)
<b>Death after Retirement.</b> Retirees died younger (lived longer) than expected.	(8.3)	0.4	6.1	6.6
<b>Total Gain or (Loss) during Period from Financial Experience.</b>	\$ 55.5	\$ (49.0)	\$ (413.2)	\$ 203.5
<b>Nonrecurring Items:</b>				
Changes in actuarial assumptions and plan amendments caused a gain (loss).	(17.9)	(0.9)	0.0	(179.3)
Change in actuarial asset valuation method caused a gain (loss).	N/A	N/A	N/A	N/A
<b>Composite Gain (Loss) during Period.</b>	\$ 37.6	\$ (49.9)	\$ (413.2)	\$ 24.2

\* Effects related to losses are shown in parentheses. Numerical results are expressed as a decrease (increase) in the UAAL.

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**ACTUARIAL VALUATION – JANUARY 1, 2006**

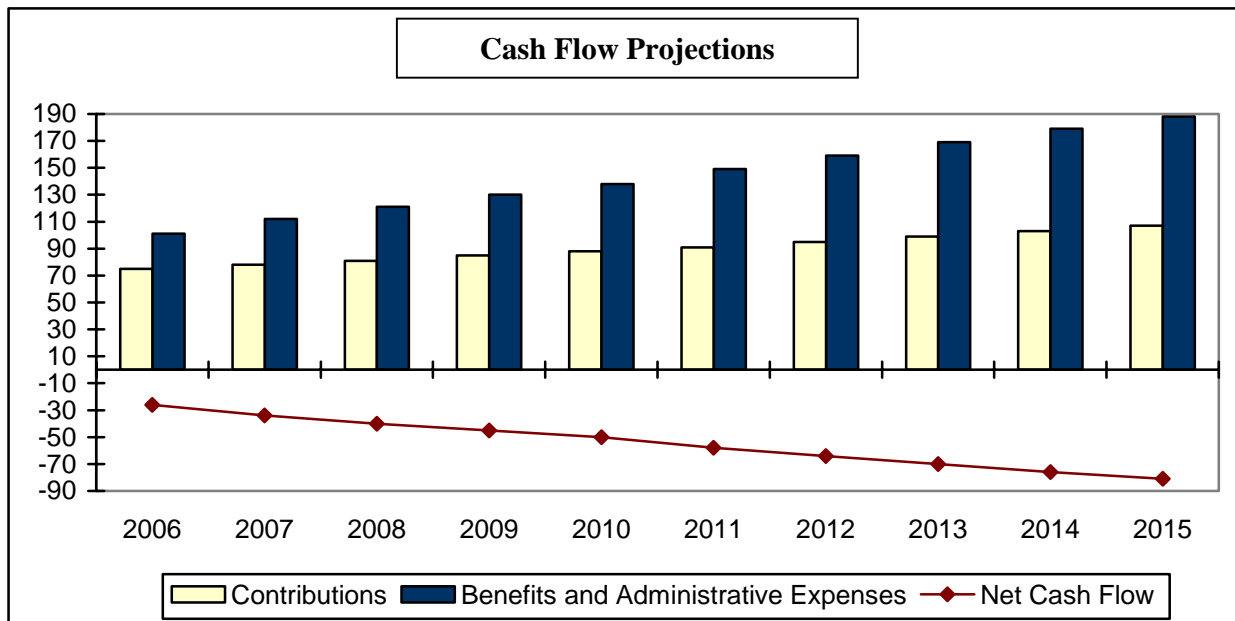
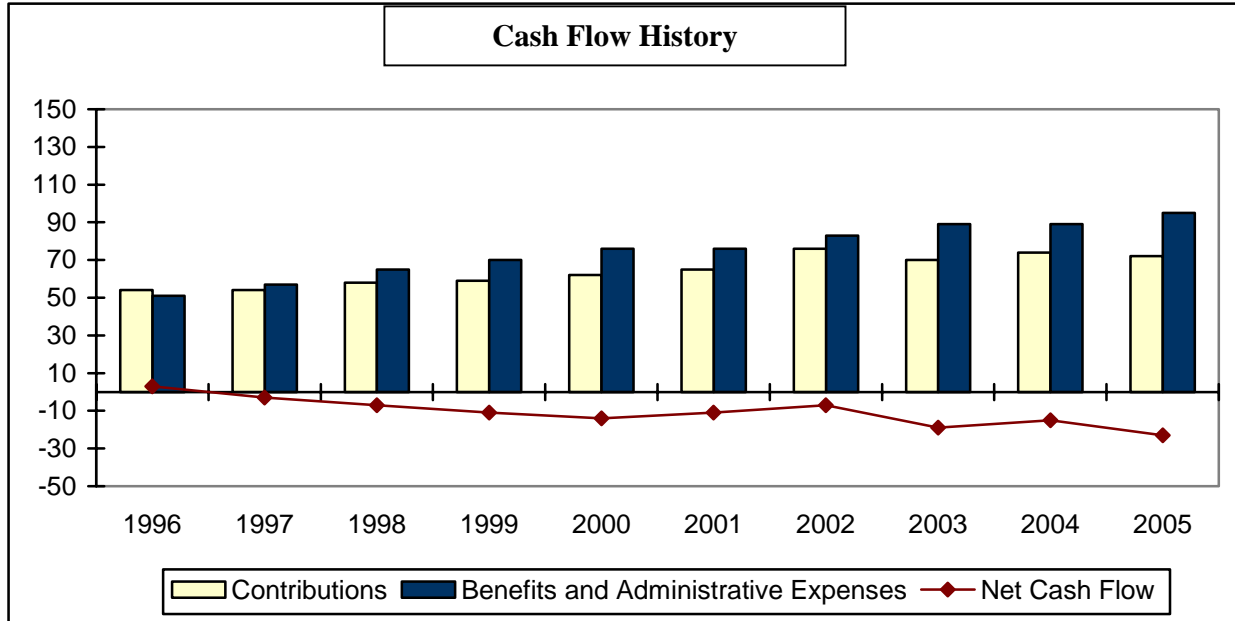
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**SECTION VIII**  
**SUPPLEMENTAL INFORMATION**

Table 13 summarizes the System's historical cash flows for the last 10 years and the projected cash flows for the next 10 years. The projected cash flows are based on the actuarial assumptions as stated in Appendix A. Contributions include both employer and member contributions. The total contribution rate is assumed to stay at 16.06% for the entire ten-year projection.

# SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM ACTUARIAL VALUATION – JANUARY 1, 2006

## CASH FLOW HISTORY AND PROJECTIONS



**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM  
ACTUARIAL VALUATION – JANUARY 1, 2006**

**CASH FLOW HISTORY AND PROJECTIONS  
(in Millions)**

<b>Historical Cash Flows</b>			
<b>Year</b>	<b>Contributions</b>	<b>Benefits* &amp; Administrative Expenses</b>	<b>Net Cash Flow</b>
1996	54	51	3
1997	54	57	-3
1998	58	65	-7
1999	59	70	-11
2000	62	76	-14
2001	65	76	-11
2002	76	83	-7
2003	70	89	-19
2004	74	89	-15
2005	72	95	-23
<b>Projected Cash Flows</b>			
<b>Year</b>	<b>Contributions</b>	<b>Benefits* &amp; Administrative Expenses</b>	<b>Net Cash Flow</b>
2006	\$75	\$ 101	\$ -26
2007	78	112	-34
2008	81	121	-40
2009	85	130	-45
2010	88	138	-50
2011	91	149	-58
2012	95	159	-64
2013	99	169	-70
2014	103	179	-76
2015	107	188	-81

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM  
ACTUARIAL VALUATION – JANUARY 1, 2006**

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**SECTION IX  
IMPACT OF FUTURE CONTINGENT COLAS**

As discussed in Section 1, increased Cost-of-Living Adjustments (COLAs) will become effective when the funding ratio increases to a certain level. Since it is unknown at what point in the future this will occur, the cost of these COLAs is not included in the actuarial valuation. To give the Board an idea of the potential impact of these changes, Table 14 shows the cost if these adjustments were to have been adopted on January 1, 2006. The actual cost will vary depending on when the System reaches the required level of funding.

When the System reaches the 95% funding ratio, the following changes will become effective:

<b>Group</b>	<b>Current Benefit Provisions</b>		<b>Contingent Benefit Provisions</b>	
	<b>Annual COLA</b>	<b>Floor COLA</b>	<b>Annual COLA</b>	<b>Floor COLA</b>
Pre-98 Retirees	“13 <sup>th</sup> Check”	60%	1.5% Compounding	65%
Post-97 and Future Retirees	1.5% Compounding	60%	1.5% Compounding	65%

Additionally, when the System reaches the 100% funding ratio, the 65% Floor COLA becomes 70%.

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM  
ACTUARIAL VALUATION – JANUARY 1, 2006**

**SUMMARY OF IMPACT OF FUTURE CONTINGENT COLAS  
(if changes applied to current valuation)**

	<b>January 1, 2006 Actuarial Valuation</b>	<b>Future Contingent COLAs at January 1, 2006</b>	
		<b>Ratio = 95%</b>	<b>Ratio = 100%</b>
COLA Provisions for:			
Pre-98 Retirees:	60% Floor & 13 <sup>th</sup> Check	65% Floor & 1.5% COLA	70% Floor & 1.5% COLA
All Others:	60% Floor & 1.5% COLA	65% Floor & 1.5% COLA	70% Floor & 1.5% COLA
Normal Cost Rate (with Expenses)	12.50%	12.59%	12.74%
<i>Change from valuation</i>		0.09%	0.24%
Actuarial Accrued Liability	\$2,017.5	\$2,094.9	\$2,122.8
<i>Change from valuation</i>		\$77.4	\$105.3

*NOTE: The information shown above is based on the benefit provisions that were adopted by the City Council but which will not become effective until SCERS reaches a 95% or 100% Funding Ratio. This information is for disclosure purposes only and assumes that the benefits were effective on January 1, 2006.*

# SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM

## ACTUARIAL VALUATION – JANUARY 1, 2006

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### APPENDIX A

#### ACTUARIAL PROCEDURES AND ASSUMPTIONS

This section of the report describes the actuarial procedures and assumptions used in this valuation. There was a change made to the postretirement mortality assumption since the last actuarial valuation was performed. In 2005, the Board approved the following changes:

- Removing the one-year set-forward to the mortality rate assumption for female service retirees

All other actuarial assumptions used in the 2004 actuarial valuation remain unchanged. No material changes in the plan provisions were made during 2004 or 2005. A summary of the plan provisions is included as Appendix B.

The actuarial assumptions used in the valuation are intended to estimate the future experience of the members of the System and of the System itself in areas that affect the projected benefit flow and anticipated investment earnings. Any variations in future experience from that expected from these assumptions will result in corresponding changes in the estimated costs of the System's benefits. Table A-1 summarizes the actuarial assumptions.

Table A-2 presents expected annual salary increases for various years of service. Tables A-3 through A-6 give central rates of decrement for service retirement, disablement, mortality, and other terminations of employment. Table A-7 shows probabilities of vesting upon termination.

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**ACTUARIAL VALUATION – JANUARY 1, 2006**

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**APPENDIX A**  
**ACTUARIAL PROCEDURES AND ASSUMPTIONS**

**Actuarial Cost Method**

The actuarial valuation was prepared using the entry age actuarial cost method. Under this method, the actuarial present value of the projected benefits of each individual included in the valuation is allocated as a level percentage of the individual's projected compensation between entry age and assumed exit. The portion of this actuarial present value allocated to a valuation year is called the normal cost. The portion of this actuarial present value not provided for at a valuation date by the sum of (a) the actuarial value of the assets, and (b) the actuarial present value of future normal costs is called the unfunded actuarial accrued liability or UAAL. The UAAL is amortized as a level percentage of the projected salaries of present and future members of the System.

**Records and Data**

The data used in the valuation consist of financial information; records of age, service, salary, and contribution rates and account balances of contributing members; and records of age, and amount of benefit for retired members and beneficiaries. All of the data were supplied by the System and are accepted for valuation purposes without audit.

**Employer Contributions**

At the time of this valuation, the total employer contribution rate for normal costs and amortization of the UAAL was 8.03% of members' salaries.



**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**ACTUARIAL VALUATION – JANUARY 1, 2006**

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**APPENDIX A**  
**ACTUARIAL PROCEDURES AND ASSUMPTIONS (CONT'D)**

<b>Administrative Expense</b>	The annual contribution assumed to be necessary to meet general administrative expenses of the System, excluding investment expense, is 0.35% of members' salaries. This figure is included in the calculation of the normal cost rate.
<b>Valuation of Assets</b>	All assets are valued at market as of the valuation date, January 1, 2006.
<b>Investment Earnings</b>	The annual rate of investment earnings of the assets of the System is assumed to be 7.75%. This rate is compounded annually and is net of investment expenses.
<b>Postretirement Benefit Increases</b>	<p>The December bonus dividend described in the Actuarial Section of the Annual Report is payable at the end of each year is approximately equivalent to a 2/3%, compounded annually, benefit increase. Certain COLA benefits were adopted by the City Council during 1998: a 60% Restoration of Purchasing Power (ROPP) benefit for members retired prior to January 1, 1998 (includes the value of the December bonus payment); and an automatic 1.5% annual COLA to all members retired on or after January 1, 1998, with a minimum guarantee that the benefit will be the greater of the automatic 1.5% increased amount or the 60% ROPP benefit. The financial impact of the ROPP benefit is valued assuming an annual price inflation rate of 3.5%.</p> <p>COLA increases that were adopted in 2001, but not effective until the System reaches at least a 95% funding ratio, are not included in the valuation results, but are discussed in Section 9.</p>
<b>Future Salaries</b>	Table A-2 illustrates the rates of future salary increases assumed for the purpose of the valuation. In addition to increases in salary due to promotions and longevity, this scale includes an assumed 4.00% per annum rate of increase in the general wage level of the membership.
<b>Service Retirement</b>	Table A-3 shows the annual assumed rates of retirement among members eligible for service retirement or reduced retirement. Separate rates are also used during the first year a member is eligible for service retirement.

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**ACTUARIAL VALUATION – JANUARY 1, 2006**

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**APPENDIX A**  
**ACTUARIAL PROCEDURES AND ASSUMPTIONS (CONT'D)**

<b>Disablement</b>	The rates of disablement used in this valuation are illustrated in Table A-4. It is assumed that one-third of all disabilities are duty related and two-thirds occur while off duty.
<b>Mortality</b>	The mortality rates used in this valuation are illustrated in Table A-5. A written description of each table used is included in Table A-1.
<b>Other Terminations of Employment</b>	The rates of assumed future withdrawal from active service for reasons other than death, disability or retirement are shown for representative ages in Table A-6.
<b>Vesting</b>	Terminating members may forfeit a vested right to a deferred benefit if they withdraw their accumulated contributions. Table A-7 gives the assumed probability, at selected ages, that a terminating member will elect to receive the deferred benefit instead of withdrawing his accumulated contributions.
<b>Interest on Member Contributions</b>	Interest on member contributions is assumed to accrue at a rate of 5.75% per annum, compounded annually.
<b>Benefits for Temporary Employees</b>	Under the Scannell case, certain employees are eligible to receive credit for their past temporary service. In some cases, these employees must purchase this credit, and in others the benefit is paid for by the System. These participants were included for the first time in the January 1, 1992 valuation.
<b>Portability</b>	The cost of portability with other public retirement Systems is not included in this valuation. There is not yet a credible body of experience to measure the costs of portability. As data on portability retirements continues to be collected, more accurate measurements will be possible in the future and an explicit assumption may be added to the valuation.
<b>Probability of Marriage</b>	We assumed 60% of the active members are married or have a registered domestic partner.
<b>Commencement for Terminated Vested Members</b>	Vested members who terminate but elect to leave their contributions in the System are assumed to commence receiving benefits at age 62.

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM  
ACTUARIAL VALUATION – JANUARY 1, 2006**

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**SUMMARY OF VALUATION ASSUMPTIONS**

I. Economic assumptions

A. Price inflation	3.50%
B. General wage increases	4.00
C. Investment return	7.75
D. Increase in membership	0.00
E. Interest on member accounts	5.75

II. Demographic assumptions

A. Salary increases due to promotion and longevity	Table A-2
B. Retirement	Table A-3
C. Disablement	Table A-4
D. Mortality among contributing members	Table A-5
Men        50% of the rates from the 1994 Group Annuity Mortality (GAM) Table for Males, with ages set forward one year.	
Women     75% of the rates from the 1994 GAM Table for Females, with ages set forward one year.	
E. Mortality among service retired members and beneficiaries	Table A-5
Men        1994 GAM Table for Males, with ages set forward one year.	
Women     1994 GAM Table for Females, with no adjustment.	
F. Mortality among disabled members	Table A-5
1992 Railroad Retirements Board Disabled Annuitants Ultimate Mortality Table, with ages set back four years (minimum rate of 2%).	
G. Other terminations of employment	Table A-6
H. Probabilities of vesting on termination	Table A-7
I. 2/3 of future disabilities with less than 10 years of service are assumed to elect to take a refund of contributions with interest	

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**ACTUARIAL VALUATION – JANUARY 1, 2006**

**FUTURE SALARIES**

Years of Service	Annual Rate of Increase				
	Merit		Wage Inflation*	Total	
	Males	Females		Males	Females
0 to 1	5.77%	5.77%	4.00%	9.77%	9.77%
1 to 2	4.73%	4.73%	4.00%	8.73%	8.73%
2 to 3	3.68%	3.68%	4.00%	7.68%	7.68%
3 to 4	2.64%	2.64%	4.00%	6.64%	6.64%
4 to 5	2.11%	2.11%	4.00%	6.11%	6.11%
9 to 10	0.86%	0.86%	4.00%	4.86%	4.86%
14 to 15	0.39%	0.39%	4.00%	4.39%	4.39%
19 to 20	0.13%	0.29%	4.00%	4.13%	4.29%
24 to 25	0.13%	0.29%	4.00%	4.13%	4.29%
29 to 30	0.13%	0.29%	4.00%	4.13%	4.29%
35 & up	0.13%	0.29%	4.00%	4.13%	4.29%

\* Includes 3.5% inflation and ½% payroll growth

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM  
ACTUARIAL VALUATION – JANUARY 1, 2006**

**RETIREMENT**

Age	Annual Rates					
	Men			Women		
	Eligible for Reduced Benefits	First Year Eligible for Full Benefits	Thereafter	Eligible for Reduced Benefits	First Year Eligible for Full Benefits	Thereafter
Less than 50	0%	10%	10%	0%	10%	10%
50	6	15	12	5	10	10
51	6	15	12	5	10	10
52	6	15	12	5	10	10
53	6	15	12	5	10	10
54	6	15	12	5	10	10
55	6	15	12	5	12	12
56	6	15	12	5	12	12
57	6	15	12	5	12	15
58	6	15	12	6	12	15
59	7	15	15	8	12	18
60	10	20	15	10	18	20
61	15	30	30	14	20	25
62	18	60	50	24	65	40
63	20	60	25	15	65	45
64	25	50	40	15	60	55
65		50	50		60	60
66		50	35		60	40
67		50	35		60	35
68		50	35		60	35
69		50	35		60	35
70		100	100		100	100

*Immediate retirement is assumed for every person age 70 or over.*

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**ACTUARIAL VALUATION – JANUARY 1, 2006**

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**DISABILITY**

<b>Age</b>	<b>Annual Rates</b>	
	<b>Men</b>	<b>Women</b>
20	0.00%	0.00%
30	0.05	0.05
40	0.07	0.07
45	0.07	0.07
50	0.10	0.10
55	0.10	0.10

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM  
ACTUARIAL VALUATION – JANUARY 1, 2006**

**MORTALITY**

Age	Annual Rates				
	Contributing Members		Members Retired for Service and Beneficiaries of Members		Disabled Members
	Men	Women	Men	Women	Men & Women
20	.03%	.02%	.05%	.03%	2.0%
30	.04	.03	.08	.04	2.0
40	.06	.06	.12	.07	2.0
45	.09	.08	.17	.10	2.0
50	.14	.12	.29	.14	2.0
55	.25	.19	.50	.23	2.0
60	.45	.38	.90	.44	2.0
65	.81	.73	1.62	.86	2.8
70	1.30	1.12	2.60	1.37	4.6
75	N/A	N/A	4.09	2.27	7.2
80	N/A	N/A	6.86	3.94	10.9

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**ACTUARIAL VALUATION – JANUARY 1, 2006**

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**OTHER TERMINATIONS OF EMPLOYMENT**  
**AMONG MEMBERS NOT ELIGIBLE TO RETIRE**

Years of Service	Annual Rates for Men	Annual Rates for Women
0 to 1	11.0%	11.5%
1 to 2	10.0	10.5
2 to 3	9.0	9.5
3 to 4	8.0	8.8
4 to 5	7.0	8.1
5 to 6	6.0	7.5
6 to 7	5.5	7.0
7 to 8	5.0	6.3
8 to 9	4.6	5.7
9 to 10	4.3	5.2
10 to 11	4.0	4.7
11 to 12	3.7	4.2
12 to 13	3.5	3.7
13 to 14	3.3	3.2
14 to 15	3.0	2.8
15 to 16	2.7	2.4
16 to 17	2.5	2.1
17 to 18	2.3	1.8
18 to 19	2.0	1.8
19 to 20	1.7	1.8
20 & up	1.5	1.8



**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**ACTUARIAL VALUATION – JANUARY 1, 2006**

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**VESTING**

**Probabilities of Vesting Upon Termination**

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<b>Age</b>	<b>Annual Rate Per 100 Members</b>
20	0.0
30	18.0
40	30.0
50	40.0
60	45.0
62 & over	45.0

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**ACTUARIAL VALUATION – JANUARY 1, 2006**

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**APPENDIX B**  
**PROVISIONS OF GOVERNING LAW**

All actuarial calculations are based upon our understanding of the provisions governing the Seattle City Employees' Retirement System, Chapter 4.36 of the Seattle City Code. The benefit and contribution provisions are summarized briefly below, along with corresponding references to the City code. This summary encompasses the major provisions of the System; it does not attempt to cover all of the detailed provisions.

<b>Effective Date</b>	The effective date of the retirement System was July 1, 1929. (Section 4.36.080)
<b>Members' Contribution Rate</b>	The members' contribution rate is currently 8.03% of salary. Certain members who were contributing at a lower rate on June 23, 1972 continue to contribute at a lower rate. (Section 4.36.110A)
<b>City Contribution Rate</b>	The City contribution rate is the amount that is actuarially determined to be necessary to fund that portion of the retirement allowances not covered by the members' contributions. (Sections 4.36.110C and 4.36.170)
<b>Final Compensation</b>	Final compensation is based on highest average compensation (excluding overtime) during any consecutive 24 months. (Sections 4.36.040C and 4.36.050B)

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**ACTUARIAL VALUATION – JANUARY 1, 2006**

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**APPENDIX B**  
**PROVISIONS OF GOVERNING LAW (CONT'D)**

**Service Retirement**

<i>Eligibility</i>	30 years of service; Age 52 and 20 years of service; Age 57 and 10 years of service; or Age 62 and 5 years of service.
<i>Normal Form</i>	Straight life benefit.
<i>Optional Forms</i>	Actuarial equivalent according to the mortality and interest basis adopted by the Retirement Board for such purposes.
<i>Amount of Allowance</i>	<p>The total monthly allowance is generally 2% times final compensation times total years of creditable service.</p> <p>However, if the member does not qualify in one of the following ways, the 2% factor is reduced by 0.1% for each year that retirement precedes the earliest date the member would be:</p> <ul style="list-style-type: none"><li>(a) any age with 30 years of service;</li><li>(b) age 51-59, providing the member's age and years of service total 80 or more;</li><li>(c) age 60 or older with 20 years of service; or</li><li>(d) age 65 or older with 5 years of service.</li></ul> <p>The reduction is somewhat less than 0.1% for members with less than 20 years of service.</p> <p>For those hired on or after January 1, 1988, creditable service excludes the first six months of service.</p>
<i>Maximum Allowance</i>	The retirement allowance of any member shall be limited to 60% of final compensation.
<i>Minimum Allowance</i>	<p>A monthly benefit based on twice the actuarial value of accumulated member contributions.</p> <p>(Sections 4.36.200, 4.36.210 and 4.36.260)</p>

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**ACTUARIAL VALUATION – JANUARY 1, 2006**

---

**APPENDIX B**  
**PROVISIONS OF GOVERNING LAW (CONT'D)**

**Disability Retirement**

<i>Eligibility</i>	Ten years of service credited within the 15 years preceding disability retirement. If disablement occurs in the course of City employment, there is no service requirement.
<i>Normal Form</i>	Modified cash refund annuity. An optional survivor's benefit is available if the spouse is the beneficiary.
<i>Amount of Allowance</i>	The total monthly disability allowance is the greater of:  (a) 1.5% times final compensation times completed years of creditable service; and (b) 1.5% times final compensation times total years of creditable service that could have been earned to age 62, but not to exceed one-third of final compensation.
<i>Maximum Allowance</i>	The maximum disability allowance is 60% of final compensation.
<i>Minimum Allowance</i>	The minimum disability allowance is \$140 per month.  (Sections 4.36.220 and 4.36.230)

**Death Benefits**

<i>Retired Members</i>	Death benefits to retired members are payable according to the form of retirement allowance elected.
<i>Active Members</i>	(a) Payment to the beneficiary of accumulated contributions, including interest; or (b) If the member had completed 10 years of service at the time of death, a surviving spouse or a registered domestic partner may elect to receive, in place of (a) above, either: (1) a monthly allowance for life equal to the benefit the spouse would have received had the member just retired with a 100% contingent annuitant option in force; or (2) a cash payment of no more than one-half of the member's accumulated contributions, along with a correspondingly reduced retirement allowance.  (Section 4.36.270)

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**ACTUARIAL VALUATION – JANUARY 1, 2006**

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**APPENDIX B**  
**PROVISIONS OF GOVERNING LAW (CONT'D)**

**Withdrawal Benefits**

*Form* Payment of accumulated contributions, with interest.  
(Section 4.36.190)

**Vested Withdrawal Benefits**

*Eligibility* Five years of service.

*Amount of Allowance* Same as service retirement benefit.

*Benefits Commence* Age 52, if 20 or more years of service;  
Age 57, if 10-19 years of service; or  
Age 62, otherwise.  
(Section 4.36.200)

**Postretirement Benefit Increases**

*Provisions* The City distributes an annual bonus to all retired members and beneficiaries receiving monthly allowances who retired prior to January 1, 1998. The bonus is equal to the retirement allowance multiplied by a percentage based upon the number of years of retirement. Effective December 1, 1998, the City Council adopted a 60% Restoration of Purchasing Power benefit for members retired prior to January 1, 1998 (including the value of the December bonus payment) and an automatic 1.5% annual COLA to all members retired on or after January 1, 1998, with a minimum guarantee that the benefit will be the greater of the automatic 1.5% increased amount or the 60% Restoration of Purchasing Power benefit.

If the System reaches a 95% funding ratio, all members become eligible for the 1.5% annual COLA and the restoration amount increases to 65%. Additionally, if the System reaches a 100% funding ratio, the restoration amount increases to 70%.  
(Sections 4.36.155 and 4.36.215)

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**ACTUARIAL VALUATION – JANUARY 1, 2006**

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**APPENDIX B**  
**PROVISIONS OF GOVERNING LAW (CONT'D)**

**Death Benefit System**

<i>Eligibility</i>	Mandatory for all active members; optional for retired members.
<i>Benefits</i>	\$2,000 upon the death of an active member or a participating retired member.
<i>Assessment</i>	Members pay an assessment of \$12 per year; the City pays a matching amount. If these assessments are not adequate, additional amounts may be transferred from the interest earnings in the retirement fund. (Sections 4.36.320 and 4.36.330)

**Additional Contributions**

<i>Provisions</i>	Members may voluntarily make contributions in excess of the regular 8.03% rate.
<i>Retirement Benefit</i>	A monthly annuity which is the actuarial equivalent of accumulated additional contributions with interest.
<i>Other Benefits</i>	Accumulated additional contributions, with interest, generally become payable upon termination other than retirement. (Sections 4.36.030 and 4.36.210)

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**ACTUARIAL VALUATION – JANUARY 1, 2006**

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**APPENDIX C**  
**VALUATION DATA**

This valuation is based upon the membership of the System as of January 1, 2006. Membership data were supplied by the System and accepted for valuation purposes without audit. However, extensive tests were performed to ensure that the data are sufficiently accurate for valuation purposes.

The data for all contributing members, former contributing members, and their survivors are summarized in Table C-1.

Tables C-2 through C-4 present distributions of members receiving service retirement benefits, members receiving disability retirement benefits, and survivors receiving benefits. Shown in the tables are the numbers of persons receiving benefits, the total annual benefits received (including payments for the annual bonus), and the average annual benefit per recipient.

Table C-5 contains summaries of the data for contributing members. Values shown in the tables are the numbers of members, their total and average annual salaries, and their total and average accumulated employee contributions.

The valuation also includes liabilities attributable to members who have terminated employment but have neither retired nor withdrawn their contributions. There are 1,855 such members.

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM  
ACTUARIAL VALUATION – JANUARY 1, 2006**

**SUMMARY OF MEMBERSHIP DATA**

	Contributing Members			Annuitants		
	Number	Annual Salaries (\$1,000)	Average Annual Salaries	Number	Annual Benefits (\$1,000)	Average Annual Benefits
January 1, 2006	8,521	468,096	54,934	5,011	83,988	16,761
January 1, 2004	8,382	441,562	52,680	4,876	74,341	15,246
January 1, 2002	8,758	418,908	47,831	4,733	61,801	13,058
January 1, 2000	8,669	382,620	44,137	4,681	55,541	11,865
January 1, 1999	7,779	333,984	42,934	4,644	52,482	11,301
January 1, 1998	7,926	329,028	41,512	4,649	50,394	10,840
January 1, 1996	8,078	314,448	38,926	4,619	44,271	9,584



**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM  
ACTUARIAL VALUATION – JANUARY 1, 2006**

**MEMBERS RECEIVING SERVICE RETIREMENT BENEFITS AS OF JANUARY 1, 2006**

	<b>&lt;50</b>	<b>50-54</b>	<b>55-59</b>	<b>60-64</b>	<b>65-69</b>	<b>70-74</b>	<b>75-79</b>	<b>80-84</b>	<b>85-89</b>	<b>90+</b>	<b>Totals</b>
<b>Number of Persons</b>	3	101	453	650	628	530	506	554	403	165	3,993
<b>Annual Benefits in Thousands</b>	87	3,019	12,222	15,719	12,239	9,302	8,010	7,080	4,901	1,755	74,334
<b>Average Annual Benefits</b>	28,858	29,896	26,979	24,184	19,489	17,552	15,830	12,780	12,162	10,636	18,616

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM  
ACTUARIAL VALUATION – JANUARY 1, 2006**

**MEMBERS RECEIVING DISABILITY RETIREMENT BENEFITS AS OF JANUARY 1, 2006**

	<b>&lt;50</b>	<b>50-54</b>	<b>55-59</b>	<b>60-64</b>	<b>65-69</b>	<b>70-74</b>	<b>75-79</b>	<b>80-84</b>	<b>85-89</b>	<b>90+</b>	<b>Totals</b>
<b>Number of Persons</b>	11	10	10	10	8	7	4	9	6	1	76
<b>Annual Benefits in Thousands</b>	155	119	129	98	68	68	25	80	44	11	797
<b>Average Annual Benefits</b>	14,135	11,931	12,882	9,787	8,497	9,760	6,374	8,885	7,286	10,551	10,494

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM  
ACTUARIAL VALUATION – JANUARY 1, 2006**

**SURVIVORS RECEIVING RETIREMENT BENEFITS AS OF JANUARY 1, 2006**

	<b>&lt;50</b>	<b>50-54</b>	<b>55-59</b>	<b>60-64</b>	<b>65-69</b>	<b>70-74</b>	<b>75-79</b>	<b>80-84</b>	<b>85-89</b>	<b>90+</b>	<b>Totals</b>
<b>Number of Persons</b>	36	23	40	43	55	79	130	218	200	118	942
<b>Annual Benefits in Thousands</b>	266	257	433	508	693	858	1,283	1,943	1,720	896	8,857
<b>Average Annual Benefits</b>	7,393	11,154	10,823	11,821	12,591	10,857	9,872	8,911	8,600	7,592	9,401

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM  
ACTUARIAL VALUATION – JANUARY 1, 2006**

**DISTRIBUTION OF EMPLOYEES AND SALARIES AS OF JANUARY 1, 2006**

<b>Number of Employees – By Age Group</b>													
<b>Nearest Year of Service</b>	<b>&lt;20</b>	<b>20-24</b>	<b>25-29</b>	<b>30-34</b>	<b>35-39</b>	<b>40-44</b>	<b>45-49</b>	<b>50-54</b>	<b>55-59</b>	<b>60-64</b>	<b>65-69</b>	<b>70+</b>	<b>Totals</b>
0	2	31	49	59	46	43	34	35	11	6			316
1	8	50	86	89	80	64	68	51	34	14	4	1	549
2	6	24	79	72	65	68	72	44	32	13	6	1	482
3-4		21	85	117	128	112	110	105	61	29	4	4	776
5-9		9	87	232	339	338	370	308	208	96	27	16	2,030
10-14				25	167	203	202	182	153	69	25	9	1,035
15-19					47	191	227	265	214	96	24	9	1,073
20-24						63	208	258	238	89	13	5	874
25-29						8	151	274	256	103	29	3	824
30-34							15	115	158	81	12	4	385
35-39								2	60	61	13	4	140
40+									2	17	15	3	37
<b>Totals</b>	<b>16</b>	<b>135</b>	<b>386</b>	<b>594</b>	<b>872</b>	<b>1,090</b>	<b>1,457</b>	<b>1,639</b>	<b>1,427</b>	<b>674</b>	<b>172</b>	<b>59</b>	<b>8,521</b>

<b>Monthly Salaries in Thousands – By Age Group</b>													
<b>Nearest Year of Service</b>	<b>&lt;20</b>	<b>20-24</b>	<b>25-29</b>	<b>30-34</b>	<b>35-39</b>	<b>40-44</b>	<b>45-49</b>	<b>50-54</b>	<b>55-59</b>	<b>60-64</b>	<b>65-69</b>	<b>70+</b>	<b>Totals</b>
0	5	81	158	227	194	180	137	159	42	32			1,215
1	17	138	272	335	333	284	272	210	136	42	15	2	2,056
2	13	72	273	295	266	296	327	191	132	56	28	2	1,951
3-4		56	315	496	607	509	528	520	269	135	20	10	3,465
5-9		23	296	971	1,525	1,560	1,762	1,404	980	423	97	50	9,091
10-14				104	741	962	967	853	749	319	104	34	4,833
15-19					213	895	1,100	1,299	1,036	441	103	36	5,123
20-24						289	1,057	1,267	1,206	446	60	22	4,347
25-29						40	754	1,377	1,341	481	135	13	4,141
30-34							64	554	794	414	53	16	1,895
35-39								9	314	311	73	16	723
40+									9	76	73	13	171
<b>Totals</b>	<b>35</b>	<b>370</b>	<b>1,314</b>	<b>2,428</b>	<b>3,879</b>	<b>5,015</b>	<b>6,968</b>	<b>7,843</b>	<b>7,008</b>	<b>3,176</b>	<b>761</b>	<b>214</b>	<b>39,011</b>

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM  
ACTUARIAL VALUATION – JANUARY 1, 2006**

**DISTRIBUTION OF EMPLOYEES AND SALARIES AS OF JANUARY 1, 2006**

Average Monthly Salaries – By Age Group													
Nearest Year of Service	<20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Totals
0	2,414	2,599	3,228	3,855	4,219	4,197	4,031	4,549	3,789	5,326			3,846
1	2,076	2,765	3,161	3,765	4,164	4,442	4,003	4,112	3,992	2,974	3,685	1,511	3,743
2	2,099	2,980	3,460	4,099	4,099	4,347	4,536	4,337	4,137	4,315	4,730	1,511	4,047
3-4		2,687	3,703	4,242	4,739	4,548	4,800	4,949	4,410	4,661	4,900	2,399	4,465
5-9		2,565	3,401	4,186	4,499	4,616	4,762	4,558	4,710	4,410	3,611	3,125	4,479
10-14				4,153	4,440	4,738	4,787	4,689	4,896	4,620	4,160	3,788	4,670
15-19					4,525	4,683	4,844	4,900	4,843	4,598	4,288	3,999	4,774
20-24						4,588	5,082	4,911	5,067	5,007	4,617	4,370	4,973
25-29							5,037	4,992	5,024	5,238	4,674	4,651	5,025
30-34								4,294	4,820	5,023	5,106	4,384	4,921
35-39									4,360	5,240	5,090	5,583	5,158
40+									4,661	4,450	4,886	4,383	4,633
Totals	2,127	2,740	3,404	4,089	4,449	4,601	4,782	4,785	4,911	4,711	4,422	3,604	4,578

# SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM

## ACTUARIAL VALUATION – JANUARY 1, 2006

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### APPENDIX D

#### COMPARATIVE SCHEDULES

This section contains tables that summarize the experience of the System shown in the valuation reports for:

- August 31, 1982
- January 1, 1984
- January 1, 1986
- January 1, 1988
- January 1, 1990
- January 1, 1992
- January 1, 1994
- January 1, 1996
- January 1, 1997
- January 1, 1998
- January 1, 1999
- January 1, 2000
- January 1, 2002
- January 1, 2004
- January 1, 2006

Table D-1 shows a summary of the active members and the annuitants covered as of the various valuation dates.

Table D-2 summarizes the contribution rates determined by each annual actuarial valuation.

Changes in the actuarial assumptions from the prior valuation occurred in 1988, 1992, 1996, 1997, 1998, 1999, 2004 and 2006.

Benefit changes occurred since the prior valuation in 1999 and 2002. Contingent COLA benefits were adopted in 2001, but are not yet effective.

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM  
ACTUARIAL VALUATION – JANUARY 1, 2006**

**MEMBERSHIP DATA**

Valuation Date (January 1)	Active Members					Annuitants		
	Number	Annual Salaries in Thousands	Average Annual Salary	Average Age	Average Years of Service	Number	Annual Benefits in Thousands	Average Annual Benefit
1982*	6,839	170,737	24,965	**	**	4,058	19,942	4,914
1984	6,702	176,414	26,322	42.0	10.6	4,276	24,060	5,627
1986	6,797	187,435	27,576	41.9	10.5	4,424	26,329	5,951
1988	7,049	203,230	28,831	42.3	10.7	4,524	30,926	6,836
1990	7,225	230,417	31,892	42.7	10.3	4,809	35,541	7,391
1992	7,942	264,564	33,312	43.2	10.7	4,663	37,595	8,062
1994	8,025	287,316	35,803	43.9	11.4	4,615	40,233	8,718
1996	8,078	314,448	38,926	44.7	12.0	4,619	44,271	9,584
1997	7,909	312,744	39,543	45.1	12.4	4,661	47,594	10,211
1998	7,926	329,028	41,512	45.5	12.6	4,649	50,310	10,822
1999	7,779	333,984	42,934	45.8	12.4	4,644	52,481	11,301
2000	8,669	382,620	44,137	45.5	11.4	4,681	55,542	11,865
2002	8,758	418,908	47,831	46.2	11.5	4,733	61,801	13,058
2004	8,382	441,562	52,680	47.2	12.5	4,876	74,341	15,246
2006	8,521	468,096	54,934	47.4	12.6	5,011	83,988	16,761

\* August 31, 1982.

\*\* Not calculated.

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**ACTUARIAL VALUATION – JANUARY 1, 2006**

**CONTRIBUTION RATES**

Valuation Date (January 1)	Normal Cost Rate		UAAL Rate	Actuarial Required Contribution (ARC)	Total Actual Rate
	Employee	Employer			
1982*	8.03%	4.48%	4.43%	8.91%	16.94%
1984	8.03	4.82	4.09	8.91	16.94
1986	8.03	5.42	3.49	8.91	16.94
1988	8.03	5.97	2.94	8.91	16.94
1990	8.03	6.04	2.87	8.91	16.94
1992	8.03	6.58	2.33	8.91	16.94
1994	8.03	6.58	2.33	8.91	16.94
1996	8.03	6.24	2.67	8.91	16.94
1997	8.03	6.41	(0.11)	6.30	16.94
1998	8.03	5.35	(1.78)	3.57	16.94
1999	8.03	5.26	(0.76)	4.50	16.06
2000	8.03	5.50	(2.46)	3.04	16.06
2002	8.03	5.71	2.32	8.03	16.06
2004	8.03	5.02	3.01	8.03	16.06
2006	8.03	4.47	3.56	8.03	16.06

\*The valuation date was August 31. The 1998 figures shown do not include the cost of funding the postretirement benefit increases adopted during 1998.



# SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM

## ACTUARIAL VALUATION – JANUARY 1, 2006

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### APPENDIX E

### GLOSSARY

The following definitions are largely excerpts from a list adopted in 1981 by the major actuarial organizations in the United States. In some cases the definitions have been modified for specific applicability to the Seattle City Employees' Retirement System. Defined terms are capitalized throughout this Appendix.

<b>Actuarial Assumptions</b>	Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement, and retirement; changes in compensation, rates of investment earnings, and asset appreciation or depreciation; procedures used to determine the Actuarial Value of Assets; and other relevant items.
<b>Actuarial Cost Method</b>	A procedure for determining the Actuarial Present Value of pension plan benefits and expenses and for developing an actuarially equivalent allocation of such value to time periods, usually in the form of a Normal Cost and an Actuarial Accrued Liability.
<b>Actuarial Gain (Loss)</b>	A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions during the period between two Actuarial Valuation dates, as determined in accordance with a particular Actuarial Cost Method.
<b>Actuarial Present Value</b>	The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions.
<b>Actuarial Valuation</b>	The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a pension plan.
<b>Actuarial Value of Assets</b>	The value of cash, investments and other property belonging to a pension plan, as used by the actuary for the purpose of an Actuarial Valuation.
<b>Actuarially Equivalent</b>	Of equal Actuarial Present Value, determined as of a given date with each value based on the same set of Actuarial Assumptions.

**SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM**  
**ACTUARIAL VALUATION – JANUARY 1, 2006**

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**APPENDIX E**  
**GLOSSARY (CONT'D)**

<b>Amortization Payment</b>	That portion of the pension plan contribution that is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability or (UAAL).
<b>Entry Age Actuarial Cost Method</b>	A method under which the Actuarial Present Value of the Projected Benefits of each individual included in an Actuarial Valuation is allocated on a level basis over the earnings of the individual between entry age and assumed exit ages. The portion of this Actuarial Present Value allocated to a valuation year is called the Normal Cost. The portion of this Actuarial Present Value not provided for at a valuation date by the Actuarial Present Value of future Normal Costs is called the Actuarial Accrued Liability.
<b>Normal Cost</b>	That portion of the Actuarial Present Value of pension plan benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method.
<b>Actuarial Accrued Liability</b>	That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of pension plan benefits and expenses which is not provided for by future Normal Costs.
<b>Unfunded Actuarial Accrued Liability</b>	The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets.
<b>Accrued Benefit</b>	The amount of an individual's benefit (whether or not vested) as of a specific date determined in accordance with the terms of a pension plan and based on compensation and service to that date.
<b>Projected Benefits</b>	Those pension plan benefit amounts which are expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age and past and anticipated future compensation and service credits.
<b>Unaccrued Benefit</b>	The excess of an individual's Projected Benefits over the Accrued Benefits as of a specified date.