Gabriel Roeder Smith & Company
Consultants & Actuaries

DENVER EMPLOYEES RETIREMENT PLAN

ACTUARIAL VALUATION REPORT

AS OF JANUARY 1, 2013

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August 28, 2013

Board of Trustees
Denver Employees Retirement Plan
777 Pearl St
Denver, CO 80203

Re: Denver Employees Retirement Plan Actuarial Valuation as of January 1, 2013

Dear Board Members:

The results of the January 1, 2013 Annual Actuarial Valuation of the Denver Employees Retirement Plan (DERP) are presented in this report. The purpose of the valuation is to measure the Plan's funding progress and to determine the employer contribution rate for the next fiscal year.

This report was prepared at the request of the DERP Board and is intended to be used by those designated or approved by the Board. This report may be provided to parties other than DERP only in its entirety and only with the permission of DERP.

Regarding the contribution rate for the next fiscal year (2013), there is an increase in the Total Computed Contribution Rate for the Pension and Medical Plans, as shown on pages 9 and 10 of the valuation report. This is primarily due to 2011 assets not earning the assumed rate of return, the continued recognition of the 2008 asset losses and the change in actuarial assumptions and methodologies. The changes in assumptions and actuarial methods are detailed on pages 5 and 6 of the valuation report. The Total Computed Contribution Rate (Pension and Medical) has increased from 18.08% for 2012 to 18.31% for 2013. The Total Contribution Amount (Pension and Medical) has increased from $93.5M for 2012 to $97.3M for 2013. Receiving this contribution is actuarially necessary to help improve and stabilize the funded status of the Pension and Retiree Medical Plans.

The valuation was based upon information, furnished by DERP, concerning Plan benefits, financial transactions, active members, terminated members, retirees and beneficiaries. We checked for internal and year-to-year consistency, but did not otherwise audit the data. These calculations may be subject to certain provisions of the agreement between DHHA and DERP. This letter and these calculations are not intended as legal or accounting advice, and we would recommend review by legal counsel for the compliance of these calculations with all relevant agreements.

The actuarial methods and assumptions used are in full compliance with the parameters established by GASB Statements No. 25 and No. 27 and meet the parameters set for the disclosures presented in the financial section by GASB Statement No. 25. For the retiree medical benefits, the schedules illustrate the value of the explicit benefit as described in the Plan Summary, and that explicit benefit is valued in compliance with all the parameters established by GASB Statements No. 43 and 45. The value of any implicit rate subsidy in the City-sponsored health plans will be illustrated in the disclosures related to those plans.

The valuation results summarized in this report involve actuarial calculations that require assumptions about future events for the Pension Plan, Retiree Medical Plan, and Denver Health and Hospital Authority (DHHA). We believe that the assumptions and methods used in this report are reasonable and appropriate for the purpose for which they have been used. However, other assumptions and methods could also be reasonable and could result in materially different results. In addition, because it is not possible or practical to consider every possible contingency, we may use summary information, estimates or simplifications of calculations to facilitate the modeling of future events. We may also exclude factors or data that are deemed to be immaterial.

If there is other information that you need in order to make an informed decision regarding the matters discussed in this report, please contact us.

We certify that the information contained in this report is accurate and fairly presents the actuarial position of DERP as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board.

The actuaries submitting this statement are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report. Both are experienced in performing valuations for large public retirement systems.

Respectfully submitted,

Leslie L. Thompson

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Diane L. Hunt

Diane L. Hunt, FSA, FCA, EA, MAAA
Consultant

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SECTION A

INTRODUCTION

Pension Plan - Executive Summary

($ in Millions)

Valuation Date:	January 1, 2013	January 1, 2012
Fiscal Year Ending:	December 31, 2013	December 31, 2012
Actuarial Information:		
· Normal Cost %	10.21%	9.67%
· Actuarial Accrued Liability (AAL)	$2,593.19	$2,386.53
· Unfunded Actuarial Accrued Liability (UAAL)	$612.99	$439.69
· Funded Ratio	76.36%	81.58%
· UAAL as % of Covered Payroll	115.32%	84.98%
· Equivalent Single Amortization Period	30 years	30 years
Required Contributions:		
· Normal Cost	$54.26	$50.03
· Amortization of the Unfunded Liability	$36.40	$36.16
· Total Contribution Amount*	$90.66	$86.19
· Percentage of Covered Payroll	17.06%	16.66%
Assets:		
· Market Value	$1,781.63	$1,649.16
· Actuarial Value	$1,980.20	$1,946.84
· Return on Market Value	12.54%	-0.31%
· Return on Actuarial Value	5.41%	3.94%
· Ratio – Actuarial Value to Market Value	111.15%	118.05%
Membership:		
· Number of:		
- Active Members	8,175	8,149
- Retirees and Beneficiaries	8,045	7,776
- Inactive, Non-retired Members**	5,038	5,027
- DROP Participants	0	0
- Total	21,258	20,952
· Covered Payroll	$531.56	$517.40

Highlights/Changes:

- A new tier of benefits is effective for new entrants as of July 1, 2011. See Section G for details.
- Contribution increase primarily due to continued recognition of the 2008 asset losses, additional losses in 2011 assets and the change in actuarial assumptions and methodology.
- Assumption changes effective January 1, 2013 increased accrued liabilties by $108.8 million.
- The aggregate experience loss was $59.6 million, with $49.6 million due to asset losses.

* These results are on a baseline basis. Baseline results are net of the DHHA supplement. The 2013 Total Contribution Amount including the DHHA supplement is $92,592,973 (17.42% of payroll), and for 2012 is $88,008,074 (17.01% of payroll).

** The number of Inactive, Non-retired Members includes 1,636 Non-vested Inactive Members as of January 1, 2013, and 1,605 Non-vested Inactive Members as of January 1, 2012, who are not vested in any benefit other than their accumulated contributions.

Retiree Medical Plan - Executive Summary

($ in Millions)

Valuation Date:	January 1, 2013	January 1, 2012
Fiscal Year Ending:	December 31, 2013	December 31, 2012
Actuarial Information:		
· Normal Cost %	0.51%	0.49%
· Actuarial Accrued Liability (AAL)	$148.89	$142.97
· Unfunded Actuarial Accrued Liability (UAAL)	$65.89	$58.29
· Funded Ratio	55.74%	59.23%
· UAAL as % of Covered Payroll	12.40%	11.27%
· Equivalent Single Amortization Period	30 years	30 years
Required Contributions:		
· Normal Cost	$2.72	$2.56
· Amortization of the Unfunded Liability	$3.91	$4.79
· Total Contribution Amount*	$6.64	$7.35
· Percentage of Covered Payroll	1.25%	1.42%
Assets:		
· Market Value	$73.06	$70.31
· Actuarial Value	$82.99	$84.68
· Return on Market Value	12.60%	-0.23%
· Return on Actuarial Value	4.97%	3.61%
· Ratio – Actuarial Value to Market Value	113.60%	120.43%

Highlights/Changes:

- No changes to benefit provisions.
- Assumption changes effective January 1, 2013 increased accrued liabilities by $5.5 million.
- The aggregate investment and liability experience loss was $1.8 million.

* These results are on a baseline basis. Baseline results are net of the DHHA supplement. The 2013 Total Contribution Amount including the DHHA supplement is $6,638,172 (1.25% of payroll), and for 2012 is $7,346,486 (1.42% of payroll).

Discussion

Actuarial Valuation

Valuations are prepared annually, as of January 1 of each year, the first day of DERP's fiscal year. Valuations are prepared for the Pension and Retiree Medical Plans. Normal Cost is separately calculated for the Hospital and Non-Hospital employee groups, in order to determine the DHHA supplemental contribution amount (see Section I).

The primary purposes of the valuation report are to measure the plan's liabilities, to determine the required contribution rate and to analyze changes in DERP's actuarial position.

In addition, the report provides information in connection with Governmental Accounting Standards Board Statement No. 25 and 27 (GASB 25 and GASB 27), and it provides summaries of the member data, financial data, plan provisions, and actuarial assumptions and methods.

Financing Objectives

DERP is supported by member contributions, employer contributions, and net earnings on the investments of the fund. The member and employer contribution rates are set by law. Employer rates increased from 10.25% to 11.00% effective January 1, 2013. Member rates increased from 6.25% to 7.00% effective January 1, 2013.

The combined member and employer contributions are intended to be sufficient to pay the normal cost and to amortize the Unfunded Actuarial Accrued Liability (UAAL) over a closed period of 30 years from the valuation date.

Contribution Requirement

The Total Computed Contribution required for the Pension Plan for the fiscal year ending December 31, 2013 is $90,659,225, 17.06% of covered payroll ($92,592,973, 17.42% of covered payroll including the DHHA Supplement). This compares with a Total Computed Contribution for the fiscal year ending December 31, 2012 of $86,187,802, 16.66% of covered payroll ($88,008,074, 17.01% of covered payroll including the DHHA Supplement).

The main reasons for the contribution increase for the Pension Plan was the change in actuarial assumptions that resulted in an increase of liabilities of $108,831,800 and this year's investment loss of $49,642,700 (based on the Actuarial Value of Assets) due to the 2008 and 2011 asset losses that are partially recognized in the Actuarial Value of Assets. This contribution increase is partially offset by the change in amortization methodology to a level percent of payroll.

The Total Computed Contribution required for the Retiree Medical Plan for the fiscal year ending December 31, 2013 is $6,636,420, 1.25% of covered payroll ($6,638,172, 1.25% of covered payroll including the DHHA Supplement). This compares with a Total Computed Contribution for the fiscal year ending December 31, 2012 of $7,349,995, 1.42% of covered payroll ($7,346,486, 1.42% of covered payroll including the DHHA Supplement).

The main reason for the contribution decrease for the Retiree Medical Plan was the change in actuarial methodology from level dollar to level percent of payroll. This contribution decrease was partially offset by the change in actuarial assumptions that resulted in an increase in liabilities of $5,489,000 and this year's investment loss of $2,432,700 due to the 2008 and 2011 asset losses that are partially recognized in the Actuarial Value of Assets.

Funded Status

As of the valuation date, the Unfunded Actuarial Accrued Liability (UAAL) for the Pension Plan is $612.99 million, and the funded ratio (the ratio of the Actuarial Value of Assets to the Actuarial Accrued Liability) is 76.36%. At the time of last year's valuation, the UAAL was $439.69 million, and the funded ratio was 81.58%. See Section D for a history of the funded ratios.

As of the valuation date, the Unfunded Actuarial Accrued Liability (UAAL) for the Retiree Medical Plan is $65.89 million, and the funded ratio (the ratio of the Actuarial Value of Assets to the Actuarial Accrued Liability) is 55.74%. At the time of last year's valuation, the UAAL was $58.29 million, and the funded ratio was 59.23%. See Section D for a history of the funded ratios.

Gains and Losses

The Pension Plan experienced a total aggregate loss of $59.6 million, which includes an investment loss of $49.6 million (based on the Actuarial Value of Assets), and a non-investment loss of $10.0 million. The change in assumptions, described in more detail on pages 5 and 6, increased liabilities by $108.8 million.

The Retiree Medical Plan experienced a total aggregate loss of $1.8 million, which includes an investment loss of $2.4 million (based on the Actuarial Value of Assets) and a non-investment gain of $0.6 million. The changes to assumptions, described in more detail on pages 5 and 6, increased liabilities by $5.5 million.

Valuation Assets

The funding policy for both the Pension Plan and the Retiree Medical Plan includes smoothing returns. Smoothing assets creates a more stable contribution rate. The 2012 return on the Actuarial Value of Assets for the Pension Plan was 5.41%, while the return on a Market Value basis was 12.54%. The 2012 return on the Actuarial Value of Assets for the Retiree Medical Plan was 4.97%, while the return on a Market Value basis was 12.60%.

The Actuarial Value of Assets exceeds the Market Value of Assets by $198.57 million for the Pension Plan and the Actuarial Value of Assets exceeds the Market Value of Assets by $9.94 million for the Retiree Medical Plan as of the valuation date (see Section C).

Relationship of Actuarial Value of Assets to Market Value of Assets

If Market Value had been the basis for the valuation, the funded ratios would have been 68.70%, for the Pension Plan and 49.07% for the Retiree Medical Plan.

Benefit Provisions

This valuation reflects the benefits as summarized in Section G of this report.

Actuarial Assumptions and Methods

In determining costs and liabilities, actuaries use assumptions about the future, such as rates of salary increase, probabilities of retirement, termination, death and disability, and an investment return assumption. The Retirement Board sets the actuarial assumptions and methods taking into account recommendations made by the plan's actuary and other advisors.

We believe the assumptions are internally consistent and are reasonable, based on the actual experience of DERP. These actuarial assumptions and methods comply with the parameters for disclosure in GASB No. 25.

The results of the actuarial valuation are dependent on the actuarial assumptions used. Actual results can, and almost certainly will, differ as actual experience deviates from the assumptions. Even seemingly minor changes in the assumptions can materially change the liabilities, calculated contribution rates, and amortization periods.

In addition to the actuarial assumptions, the actuary also makes use of an Actuarial Cost Method to allocate costs to particular years. DERP uses the Projected Unit Credit method. This method determines an accrued liability based on projected compensation, and uses service to the valuation date. The unfunded accrued liability is then amortized on a closed 30-year amortization basis, as a level percent of pay. Prior to this valuation, the unfunded liability was amortized on an open 30-year period on a level dollar basis.

This valuation reflects the new actuarial assumptions and methods adopted by the Board on June 14, 2013. These changes were based on an experience study performed by GRS for the period of January 1, 2008 through December 31, 2012.

Economic Assumptions

1. The implicit inflation assumption was reduced from 3.00% to 2.75%. The discount rate remained at 8.00%.

2. The productivity component of the salary scale assumption was changed to 0.50%. Combining with the inflation rate of 2.75% creates a wage inflation assumption of 3.25%. A few changes were made to the merit portion of the salary increase assumption for the Non-Hospital group; for the Hospital group, the merit portion of the salary increase assumption was eliminated.

Mortality Assumptions

3. The mortality tables were updated for non-disabled participants (both pre- and post-retirement) to the RP-2000 Combined Mortality Table projected with Scale AA to 2020 with a multiplier of 100% for retired males, 90% for retired females and 85% for active males and females. This increases the assumed life expectancy and provides a margin for future improvements in life expectancy.

4. The disabled mortality table was updated to the RP-2000 Disabled Life Mortality Table projected with Scale AA to 2020 in order to reflect the longer life expectancy of the disabled members.

Other Demographic Assumptions

5. Based on generally observed trends discussed above, retirement rates were changed to better fit the data for both the Hospital and Non-Hospital groups. In general, rates were increased for normal retirement and decreased for early retirement.

6. Based on observed experience, termination rates were reduced for the Non-Hospital group. Rates for the Hospital group were left unchanged.

7. Disability rates were left unchanged; however, the proportion of duty related disabilities was increased from 10% to 15% for both the Hospital and Non-Hospital groups.

Hospital Valuation Assumptions

In March of 2010 an experience study was conducted that showed the differences in experience between Hospital and Non-Hospital populations. At that time the recommendations included two key areas for different assumptions - for retirement and for withdrawal. The 2013 experience study supported the continuation of these different assumptions between Hospital and Non-Hospital employees. See Section F for details on these assumptions.

Actuarial Methods and Policies

8. Actuarial Value of Assets: No change was made to the use of the smoothing technique to determine the actuarial value of assets.

9. Actuarial Cost Method: The Projected Unit Credit (PUC) Actuarial Cost Method was not changed. Although the PUC method may produce a less stable contribution as a percent of pay than the entry age normal method, particularly with the change in ages in the underlying population, the new tiers of benefits will have a counter effect, dampening the increase in normal cost that could occur due to the net aging of the population.

10. Amortization of the Unfunded Actuarial Accrued Liability: The Board adopted a change to this method to a level percent of pay 30-year closed methodology from a level dollar 30-year open methodology.

Member Data

The number of active members increased by 0.32% from 8,149 to 8,175 and average pay for active members increased from $63,492 to $65,023, a 2.4% increase. Average age of active members is 46.4, compared to 46.3 last year. Average years of service is 11.8, compared to 11.9 last year. There are also 5,038 inactive vested members, which includes 1,636 members vested in member contributions only.

The number of members in payment status increased by 269, from 7,776 to 8,045. This number includes service retirees, disability retirees and beneficiaries receiving benefits. The average annual service retiree benefit is $19,483 and there are 1.0 active members for each retiree/beneficiary.

A one-time adjustment was made to this year's pay data, increasing it from 51 weeks of pay to 52 weeks of pay, with minimum pay set equal to last year's pay. This adjustment was made to reflect that there are no anticipated furlough days in 2013, while the 2012 data reflected a one-week reduction in pay as a result of furlough days.

GASB No. 25 Disclosure

Governmental Accounting Standards Board (GASB) Statement No. 25 governs reporting for government-sponsored retirement plans.

For Section D, the Annual Required Contribution (ARC) is defined to be the sum of (a) the employer's normal cost, and (b) the amount needed to amortize the UAAL as a level percent of payroll over a closed 30-year period.

Effective January 1, 2008, valuation results presented are those provided by GRS. Results prior to that date were provided by the former actuary.

GASB No. 43

Governmental Accounting Standards Board (GASB) Statement No. 43 governs financial reporting for postemployment benefits other than pension plans. These liabilities shown in the report in Section D represent solely the value of the explicit benefit, without regard to the implicit rate subsidy. The explicit benefit is valued in compliance with all parameters established by GASB Statements No. 43 and No. 45. The value of any implicit rate subsidy in the city-sponsored health plans will be illustrated in the disclosures related to those plans.

ASOP No. 35

The Actuarial Standards of Practice, with regard to the mortality assumption, has recently been revised. ASOP No. 35 Disclosure Section 4.1.1 now states *"The disclosure of the mortality assumption should contain sufficient detail to permit another qualified actuary to understand the provision made for future mortality improvement. If the actuary assumes zero mortality improvement after the measurement date, the actuary should state that no provision was made for future mortality improvement."* The mortality assumption currently includes margin for future mortality improvement. Detail on this assumption can be found in Section F.

SECTION B

FUNDING RESULTS

Pension Plan
Principal Valuation Results
as of January 1*

Valuation Date	**2013**	**2012**
Covered Group		
A. Number of Participants:		
Actives Members	8,175	8,149
Vested Inactive Members**	5,038	5,027
Retirees and Beneficiaries	8,045	7,776
Total	21,258	20,952
Covered Annual Payroll	$531,559,017	$517,396,257

Development of Contribution Rate For Fiscal Year Ending	**2013**	**2012**
B. Normal Cost %	10.21%	9.67%
C. Unfunded Actuarial Accrued Liabilities (UAAL):		
Actuarial Accrued Liability	$2,593,190,336	$2,386,530,071
Actuarial Value of Assets	$1,980,204,173	$1,946,844,159
UAAL	$612,986,163	$439,685,912
% of Payroll required to amortize UAAL	6.85%	6.99%
D. Total Computed Contribution Rate	17.06%	16.66%

* Separate figures for DHHA are provided in Section I of this report

** The number of Vested Inactive Members includes 1,636 Inactive Members as of January 1, 2013, and 1,605 Inactive Members as of January 1, 2012, who are only vested in their contribution account.

Retiree Medical Plan
Principal Valuation Results
as of January 1*

Development of Contribution Rate **For Fiscal Year Ending**	**2013**	**2012**
A. Normal Cost %	0.51%	0.49%
B. Unfunded Actuarial Accrued Liabilities (UAAL):		
Actuarial Accrued Liability	$148,886,318	$142,966,927
Actuarial Value of Assets	$82,992,647	$84,679,890
UAAL	$65,893,671	$58,287,037
% of Payroll required to amortize UAAL	0.74%	0.93%
C. Total Computed Contribution Rate	1.25%	1.42%

* Separate figures for DHHA are provided in Section I of this report

Pension Plan
Actuarial Liabilities
as of January 1, 2013

	Actuarial Present Value of Future Benefits (1)	Portion Covered by Future Normal Cost Contributions (2)	Actuarial Accrued Liabilities (1) - (2)
Active members:			
Retirement	$1,173,588,503	$375,435,318	$798,153,185
Disability	50,210,028	16,672,408	33,537,620
Death	23,132,619	7,789,192	15,343,427
Termination	104,455,164	35,047,336	69,407,828
Vested inactive members	156,404,385	0	156,404,385
DROP participant - account balances	105,677,036	0	105,677,036
Retirees and Beneficiaries	1,414,666,855	0	1,414,666,855
Total	$3,028,134,590	$434,944,254	$2,593,190,336
Actuarial Value of Assets	$1,980,204,173	$0	$1,980,204,173
Liabilities to be covered by Future Contributions	$1,047,930,417	$434,944,254	$612,986,163

Retiree Medical Plan
Actuarial Liabilities
as of January 1, 2013

	Actuarial Present Value of Future Benefits (1)	Portion Covered by Future Normal Cost Contributions (2)	Actuarial Accrued Liabilities (1) - (2)
Active members:			
Retirement	$56,121,764	$16,928,453	$39,193,311
Disability	3,029,438	974,850	2,054,588
Death	1,216,236	399,918	816,318
Termination	3,638,454	1,165,963	2,472,491
Vested inactive members	8,393,768	0	8,393,768
DROP participants	0	0	0
Retirees and Beneficiaries	95,955,842	0	95,955,842
Total	$168,355,502	$19,469,184	$148,886,318
Actuarial Value of Assets	$82,992,647	$0	$82,992,647
Liabilities to be covered by Future Contributions	$85,362,855	$19,469,184	$65,893,671

Pension Plan
Actuarial Balance Sheet as of January 1
Assets and Present Value of Expected Future Contributions

	2013	2012
A. Actuarial Value of Assets		
1. Net assets from system financial statements	$1,781,633,331	$1,649,156,976
2. Adjustment for Valuation Assets*	198,570,842	297,687,183
3. Actuarial Value of Assets	$1,980,204,173	$1,946,844,159
B. Actuarial Present Value of Expected Future Contributions		
1. For Normal Costs	$434,944,254	$410,695,482
2. For Unfunded Actuarial Accrued Liability	612,986,163	439,685,912
3. Total	$1,047,930,417	$850,381,394
C. Total Present and Expected Future Resources (equals Present Value of Benefits)	$3,028,134,590	$2,797,225,553

*See page 22

Retiree Medical Plan
Actuarial Balance Sheet as of January 1
Assets and Present Value of Expected Future Contributions

	2013	2012
A. Actuarial Value of Assets		
1. Net assets from system financial statements	$73,057,257	$70,313,146
2. Adjustment for Valuation Assets*	9,935,390	14,366,744
3. Actuarial Value of Assets	$82,992,647	$84,679,890
B. Actuarial Present Value of Expected Future Contributions		
1. For Normal Costs	$19,469,184	$18,487,861
2. For Unfunded Actuarial Accrued Liability	65,893,671	58,287,037
3. Total	$85,362,855	$76,774,898
C. Total Present and Expected Future Resources (equals Present Value of Benefits)	$168,355,502	$161,454,788

*See page 23

Pension Plan
Reconciliation of Actuarial Accrued Liability
as of January 1
(rounded to the nearest $100)

1. Actuarial Accrued Liability (AAL) as of January 1, 2012:		$	2,386,530,100
2. Development of expected AAL as of January 1, 2013:			
a. Normal cost (NC) for plan year		$	51,845,000
b. Actual benefit payments paid during plan year (BP)			150,418,600
c. Interest on AAL and NC less interest on BP to December 31, 2012			186,438,200
d. Expected AAL as of January 1, 2013 (1.+2.a.-2.b.+2.c.)		$	2,474,394,700
3. Changes in AAL due to:			
a. Actual experience versus demographic assumptions (Gain)/Loss:			
i. Salary increases (Lower than expected)	(7,767,900)		
ii. Retirement (Fewer than expected)	95,800		
iii. Mortality - pre and post (Fewer deaths than expected)	3,982,900		
iv. Vested termination (Fewer than expected)	3,814,100		
v. Non vested termination (Fewer than expected)	426,000		
vi. Disability (Less than expected)	(348,800)		
vii. Data reconciliation (Changes in data)	3,253,900		
viii. Other plan experience	(466,100)		
ix. New entrants	1,564,900		
Total change due to experience		$	4,554,800
b. Social Security Makeup Benefit Refinement			(1,727,900)
c. Increase in Refund Benefit Due to Contribution Rate Increase			87,200
d. Decrease in Benefits due to the recognition of 415 Limits			(5,712,100)
e. Change in actuarial assumptions			108,831,800
f. Change due to the removal of Furlough			12,761,800
g. Total (3.a.+ 3.b.+ 3.c.+ 3.d.+ 3.e.+ 3.f.)		$	118,795,600
4. Actuarial Accrued Liability as of January 1, 2013 (2.d.+3.g.)		$	2,593,190,300

Retiree Medical Plan
Reconciliation of Actuarial Accrued Liability
as of January 1
(rounded to the nearest $100)

1. Actuarial Accrued Liability (AAL) as of January 1, 2012:		$ 142,966,900
2. Development of expected AAL as of January 1, 2013:		
a. Normal cost (NC) for plan year		$ 2,556,000
b. Actual benefit payments paid during plan year (BP)		12,486,100
c. Interest on AAL and NC less interest on BP to December 31, 2012		10,996,600
d. Expected AAL as of January 1, 2013 (1.+2.a.-2.b.+2.c.)		$ 144,033,400
3. Changes in AAL due to:		
a. Actual experience versus demographic assumptions (Gain)/Loss:		
i. Salary increases	$ -	
ii. Retirement (Fewer than expected)	(80,800)	
iii. Mortality - pre and post	(803,500)	
iv. Vested termination (Fewer than expected)	(61,700)	
v. Non-vested termination and benefit opt-outs	(209,600)	
vi. Disability (Less than expected)	(133,500)	
vii. Data reconciliation (Changes in data)	559,400	
viii. Other plan experience	36,000	
ix. New entrants	57,600	
Total change due to experience		(636,100)
b. Change in actuarial assumptions		5,489,000
c. Plan improvements		-
d. Total (3.a.+ 3.b.+ 3.c.)		$ 4,852,900
4. Actuarial Accrued Liability as of January 1, 2013 (2.d.+3.d.)		$ 148,886,300

SECTION C

PLAN ASSETS

Pension Plan
Statement of Plan Assets
(Assets at Market or Fair Value)

Item	December 31 2012	December 31 2011
A. Assets:		
1. Cash and Cash Equivalents (Operating Cash)	$31,579,891	$44,517,068
2. Securities Lending Collateral	178,419,423	175,118,832
3. Capital Assets	5,574,691	5,788,453
4. Prepaid items	0	0
B. Receivables:		
1. Contributions	$0	$0
2. Unsettled Securities Sold	493,842	258,976
3. Interest and Dividends	1,353,379	3,131,381
4. Total Receivables	$1,847,221	$3,390,357
C. Investments:		
1. U.S. Government Obligations	$71,934,943	$74,067,868
2. Domestic Fixed Income	235,219,843	218,897,583
3. Domestic Equities	462,940,176	475,304,711
4. International Equities	467,215,068	403,843,541
5. Real Estate	146,894,297	137,109,585
6. Alternative Investments	272,638,672	211,995,599
7. Absolute Return	90,394,390	78,861,478
8. Total Investments	$1,747,237,389	$1,600,080,365
D. Liabilities:		
1. Unsettled Securities Purchased	($2,405,212)	($2,537,901)
2. Securities Lending Obligations	(178,419,423)	(175,118,832)
3. Accounts Payable	(2,200,649)	(2,081,366)
4. Total Liabilities	($183,025,284)	($179,738,099)
E. Total Market Value of Assets Available for Benefits	$1,781,633,331	$1,649,156,976
F. Allocation of Investments:		
1. U.S. Government Obligations	4.12%	4.63%
2. Domestic Fixed Income	13.46%	13.68%
3. Domestic Equities	26.50%	29.70%
4. International Equities	26.74%	25.24%
5. Real Estate	8.41%	8.57%
6. Alternative Investments	15.60%	13.25%
7. Absolute Return	5.17%	4.93%
8. Total Investments	100.00%	100.00%

Retiree Medical Plan
Statement of Plan Assets
(Assets at Market or Fair Value)

Item	December 31 2012	December 31 2011
A. Assets:		
1. Cash and Cash Equivalents (Operating Cash)	$1,294,958	$1,898,022
2. Securities Lending Collateral	7,316,227	7,466,333
3. Capital Assets	228,594	246,795
4. Prepaid Items	0	0
B. Receivables:		
1. Contributions	$0	$0
2. Unsettled Securities Sold	20,250	11,042
3. Interest and Dividends	55,496	133,509
4. Total Receivables	$75,746	$144,551
C. Investments:		
1. U.S. Government Obligations	$2,949,748	$3,157,943
2. Domestic Fixed Income	9,645,372	9,332,876
3. Domestic Equities	18,983,222	20,265,002
4. International Equities	19,158,516	17,218,197
5. Real Estate	6,023,515	5,845,779
6. Alternative Investments	11,179,760	9,038,604
7. Absolute Return	3,706,692	3,362,323
8. Total Investments	$71,646,825	$68,220,724
D. Liabilities:		
1. Unsettled Securities Purchased	($98,627)	($108,205)
2. Securities Lending Obligations	(7,316,227)	(7,466,333)
3. Accounts Payable	(90,239)	(88,741)
4. Total Liabilities	($7,505,093)	($7,663,279)
E. Total Market Value of Assets Available for Benefits	$73,057,257	$70,313,146
F. Allocation of Investments:		
1. U.S. Government Obligations	4.12%	4.63%
2. Domestic Fixed Income	13.46%	13.68%
3. Domestic Equities	26.50%	29.70%
4. International Equities	26.74%	25.24%
5. Real Estate	8.41%	8.57%
6. Alternative Investments	15.60%	13.25%
7. Absolute Return	5.17%	4.93%
8. Total Investments	100.00%	100.00%

Pension Plan
Reconciliation of Plan Assets

Item	December 31 2012	December 31 2011
A. Market Value of Assets at Beginning of Year	$1,649,156,976	$1,725,680,001
B. Revenues and Expenditures:		
1. Contributions:		
a. Employee Contributions	$30,663,247	$26,110,772
b. Employer Contributions	49,756,639	45,703,351
c. Purchased Service Credit	-	-
d. Total	$80,419,886	$71,814,123
2. Investment Income:		
a. Interest, Dividends, and Other Income	$215,113,222	$5,418,028
b. Net Securities Lending Income	858,717	402,448
c. Investment Expenses	(10,162,119)	(8,216,496)
d. Net Investment Income	$205,809,820	($2,396,020)
3. Benefits and Refunds:		
a. Refunds	($947,756)	($948,969)
b. Regular Monthly Benefits	(144,232,319)	(136,756,136)
c. DROP and DROP II Benefits	(5,238,535)	(5,352,114)
d. Partial Lump-Sum Benefits Paid	-	-
e. Total	($150,418,610)	($143,057,219)
4. Administrative and Miscellaneous Expenses	($3,334,741)	($2,883,909)
5. Transfers	$0	$0
C. Market Value of Assets at End of Year	$1,781,633,331	$1,649,156,976

Retiree Medical Plan
Reconciliation of Plan Assets

Item	December 31 2012	December 31 2011
A. Market Value of Assets at Beginning of Year	$70,313,146	$76,463,028
B. Revenues and Expenditures:		
1. Contributions:		
a. Employee Contributions	$2,492,678	$2,329,357
b. Employer Contributions	4,241,292	4,202,033
c. Purchased Service Credit	-	-
d. Total	$6,733,970	$6,531,390
2. Investment Income:		
a. Interest, Dividends, and Other Income	$9,022,961	$296,574
b. Net Securities Lending Income	36,018	16,387
c. Investment Expenses	(423,231)	(355,753)
d. Net Investment Income	$8,635,748	($42,792)
3. Benefits and Refunds:		
a. Refunds	($39,653)	($41,255)
b. Regular Monthly Benefits	(12,446,444)	(12,471,835)
c. Partial Lump-Sum Benefits Paid	-	-
d. Total	($12,486,097)	($12,513,090)
4. Administrative and Miscellaneous Expenses	($139,510)	($125,390)
5. Transfers	$0	$0
C. Market Value of Assets at End of Year	$73,057,257	$70,313,146

Pension Plan
Development of Actuarial Value of Assets

	Year Ending – December 31	2012	2011
A.	**Actuarial Value of Assets (AVA) Beginning of Year**	**$1,946,844,159**	**$1,942,871,295**
B.	Market Value (MV) End of Year	1,781,633,331	1,649,156,976
C.	Market Value Beginning of Year	1,649,156,976	1,725,680,001
D.	Increases During the Year:		
	D1. Member Contributions	$30,663,247	$26,110,772
	D2. Employer Contributions	49,756,639	45,703,351
	D3. Expected Return	153,001,449	152,521,665
	D4. Total Increases	$233,421,335	$224,335,788
E.	Decreases During the Year:		
	E1. Retirement Benefits	($149,470,854)	($142,108,250)
	E2. Refund of Member Accounts	(947,756)	(948,969)
	E3. Member Balance Transfers	0	0
	E4. Expenses*	0	(2,883,909)
	E5. Total Decreases	($150,418,610)	($145,941,128)
F.	Projected Actuarial Value of Assets (A. + D.4. + E.5.)	$2,029,846,884	$2,021,265,955
G.	Difference in Projected AVA and MV (B.-F.)	($248,213,553)	($372,108,979)
H.	Appreciation/(Depreciation) recognized:		
	20% of G.	($49,642,711)	($74,421,796)
I.	**Actuarial Value of Assets End of Year (F. + H.)**	**$1,980,204,173**	**$1,946,844,159**
J.	Unrecognized Difference in AVA and MV (B.-I.)	($198,570,842)	($297,687,183)
K.	**Actuarial Rate of Return**	**5.41%**	**3.94%**
L.	**Market Value Rate of Return**	**12.54%**	**-0.31%**
M.	**Ratio of Actuarial Value of Assets to Market Value**	**111%**	**118%**

*Expenses are not explicitly shown after 2011

The Actuarial Value of Assets recognizes 20% of the difference between the projected actuarial value and the market value at the valuation date. Effective January 1, 2009, this value is no longer constrained to a range of 80% to 120% of the market value of assets as of the valuation date. This method has the effect of smoothing volatility in investment returns. Returns are measured net of all administrative and investment expenses.

Retiree Medical Plan
Development of Actuarial Value of Assets

	Year Ending – December 31	2012	2011
A.	**Actuarial Value of Assets (AVA) Beginning of Year**	**$84,679,890**	**$87,609,491**
B.	Market Value (MV) End of Year	73,057,257	70,313,146
C.	Market Value Beginning of Year	70,313,146	76,463,028
D.	Increases During the Year:		
	D1. Member Contributions	$2,492,678	$2,329,357
	D2. Employer Contributions	4,241,292	4,202,033
	D3. Refund of Member Accounts	0	0
	D4. Expected Return	6,548,732	6,769,175
	D5. Total Increases	$13,282,702	$13,300,565
E.	Decreases During the Year:		
	E1. Retirement Benefits	($12,446,444)	($12,471,835)
	E2. Refund of Member Accounts	(39,653)	(41,255)
	E3. Member Balance Transfers	0	0
	E4. Expenses*	0	(125,390)
	E5. Total Decreases	($12,486,097)	($12,638,480)
F.	Projected Actuarial Value of Assets (A. + D.5. + E.5.)	$85,476,495	$88,271,576
G.	Difference in Projected AVA and MV (B.-F.)	($12,419,238)	($17,958,430)
H.	Appreciation/(Depreciation) recognized:		
	20% of G.	($2,483,848)	($3,591,686)
I.	**Actuarial Value of Assets End of Year (F. + H.)**	**$82,992,647**	**$84,679,890**
J.	Unrecognized Difference in AVA and MV (B.-I.)	($9,935,390)	($14,366,744)
K.	**Actuarial Rate of Return**	**4.97%**	**3.61%**
L.	**Market Value Rate of Return**	**12.60%**	**-0.23%**
M.	**Ratio of Actuarial Value of Assets to Market Value**	**114%**	**120%**

*Expenses are not explicitly shown after 2011

The Actuarial Value of Assets recognizes 20% of the difference between the projected actuarial value and the market value at the valuation date. Effective January 1, 2009, this value is no longer constrained to a range of 80% to 120% of the market value of assets as of the valuation date. This method has the effect of smoothing volatility in investment returns. Returns are measured net of all administrative and investment expenses.

Pension Plan
History of Investment Return Rates

Plan Year Ending December 31 of	Market	Actuarial
(1)	(2)	(3)
2002	(8.65%)	3.50%
2003	19.35%	6.10%
2004	11.10%	7.10%
2005	9.28%	7.50%
2006	13.72%	8.68%
2007	10.57%	9.10%
2008	(26.17%)	1.74%
2009	13.74%	3.39%
2010	13.89%	4.98%
2011	(0.31%)	3.94%
2012	12.54%	5.41%
Average annual returns:		
Last five years:	1.42%	3.89%
Last ten years:	6.93%	5.77%

Retiree Medical Plan
History of Investment Return Rates

Plan Year Ending December 31 of	Market	Actuarial
(1)	(2)	(3)
2002	(8.68%)	3.80%
2003	19.29%	6.10%
2004	11.03%	7.00%
2005	9.24%	7.40%
2006	13.72%	8.58%
2007	10.60%	9.04%
2008	(26.06%)	1.74%
2009	13.59%	3.23%
2010	13.66%	4.66%
2011	(0.23%)	3.61%
2012	12.60%	4.97%
Average annual returns:		
Last five years:	1.41%	3.64%
Last ten years:	6.91%	5.61%

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The above rates are based on the retirement plan's financial information reported to the actuary. They may differ from figures that the investment consultant reports, in part because of differences in the handling of administrative and investment expenses, and in part because of differences in the handling of cash flows. Figures prior to 2007 were provided by the previous actuary and DERP.

Pension Plan**
History of Cash Flow in Trust Fund

Plan Year Ending December 31	Total Contributions	Benefits and Refunds	Administrative Expenses	Transfers and Other	Net Investment Return*	Market Value of Assets at End of Year
2000						$1,488,342,575
2001	$43,990,992	($57,770,905)	($1,918,365)	-	($85,618,821)	1,387,025,476
2002	47,338,877	(62,334,251)	(1,955,993)	-	(117,388,491)	1,252,685,618
2003	45,899,111	(67,889,993)	(2,098,088)	-	242,309,261	1,470,905,909
2004	44,864,380	(76,437,075)	(2,211,322)	-	163,674,788	1,600,796,680
2005	48,595,153	(86,212,631)	(2,464,874)	-	149,237,500	1,709,951,828
2006	49,245,410	(95,645,656)	(2,618,710)	-	234,113,308	1,895,046,180
2007	52,934,416	(105,316,959)	(2,469,185)	-	199,977,322	2,040,171,774
2008	57,167,418	(115,583,559)	(2,839,820)	-	(523,370,681)	1,455,545,132
2009	55,976,584	(121,622,108)	(2,558,311)	-	198,018,642	1,585,359,939
2010	63,367,957	(138,058,331)	(2,555,677)	-	217,566,113	1,725,680,001
2011	71,814,123	(143,057,219)	(2,883,909)	-	(2,396,020)	1,649,156,976
2012	80,419,886	(150,418,610)	(3,334,741)	-	205,809,820	1,781,633,331

Retiree Medical Plan**
History of Cash Flow in Trust Fund

Plan Year Ending December 31	Total Contributions	Benefits and Refunds	Administrative Expenses	Transfers and Other	Net Investment Return*	Market Value of Assets at End of Year
2000						$85,267,950
2001	$6,213,943	($5,672,171)	($110,628)	-	($4,910,543)	80,788,551
2002	3,556,073	(6,561,307)	(112,517)	-	(6,766,350)	70,904,450
2003	4,567,891	(7,588,370)	(117,418)	-	13,503,048	81,269,601
2004	3,928,526	(8,419,647)	(120,227)	-	8,832,033	85,490,236
2005	4,568,782	(9,209,929)	(129,711)	-	7,812,975	88,532,353
2006	5,263,707	(9,943,879)	(133,977)	-	11,955,835	95,674,039
2007	5,802,249	(10,632,418)	(123,382)	-	10,012,367	100,732,855
2008	5,437,137	(10,846,558)	(138,364)	-	(25,408,688)	69,776,382
2009	5,842,767	(11,023,712)	(120,955)	-	9,252,242	73,726,724
2010	4,875,366	(11,738,126)	(115,362)	-	9,714,426	76,463,028
2011	6,531,390	(12,513,090)	(125,390)	-	(42,792)	70,313,146
2012	6,733,970	(12,486,097)	(139,510)	-	8,635,748	73,057,257

*Net of Investment Expense
**Figures prior to 2007 were provided by the previous actuary.

SECTION D

ACCOUNTING DISCLOSURES

Pension Plan*
Schedule of Funding Progress
($ in millions)

Valuation Date January 1	Actuarial Value of Assets	Actuarial Accrued Liability (AAL)	Unfunded AAL (UAAL) [(3) - (2)]	Funded Ratio [(2)/(3)]	Covered Payroll	UAAL as a Percentage of Covered Payroll [(4)/(6)]
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2004	$1,572.94	$1,604.53	$31.59	98.03%	$506.52	6.24%
2005	1,651.09	1,665.54	14.45	99.13%	495.17	2.92%
2006	1,735.21	1,782.50	47.30	97.35%	495.29	9.55%
2007	1,837.48	1,862.77	25.30	98.64%	499.46	5.06%
2008	1,950.01	1,985.65	35.64	98.21%	545.84	6.53%
2009	1,924.99	2,095.89	170.90	91.85%	564.99	30.25%
2010	1,923.56	2,176.24	252.68	88.39%	506.05	49.93%
2011	1,942.87	2,284.76	341.88	85.04%	517.40	66.08%
2012	1,946.84	2,386.53	439.69	81.58%	517.40	84.98%
2013	1,980.20	2,593.19	612.99	76.36%	531.56	115.32%

Retiree Medical Plan*
Schedule of Funding Progress**
($ in millions)

Valuation Date January 1	Actuarial Value of Assets	Actuarial Accrued Liability (AAL)	Unfunded AAL (UAAL) [(3) - (2)]	Funded Ratio [(2)/(3)]	Covered Payroll	UAAL as a Percentage of Covered Payroll [(4)/(6)]
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2004	$87.11	$105.48	$18.37	82.59%	$506.52	3.63%
2005	88.53	116.57	28.04	75.95%	495.17	5.66%
2006	90.23	123.78	33.55	72.90%	495.29	6.77%
2007	93.09	127.13	34.04	73.22%	499.46	6.82%
2008	96.46	128.61	32.15	75.00%	545.84	5.89%
2009	92.68	134.00	41.32	69.17%	564.99	7.31%
2010	90.41	141.64	51.23	63.83%	506.05	10.12%
2011	87.61	143.11	55.50	61.22%	517.40	10.73%
2012	84.68	142.97	58.29	59.23%	517.40	11.27%
2013	82.99	148.89	65.89	55.74%	531.56	12.40%

*Figures prior to 2008 were provided by the previous actuary.

**These liabilities represent solely the value of the explicit benefit, without regard to the implicit rate subsidy. The explicit benefit is valued in compliance with all the parameters established by GASB Statements No. 43 and No.45. The value of any implicit rate subsidy in the city-sponsored health plans will be illustrated in the disclosures related to those plans.

Pension Plan*
Schedule of Employer Contributions

Year Beginning January 1:	GASB NO. 25 Annual Required Contribution (ARC)		Contributions *		Percentage of GASB ARC Contributed
	% of Payroll[7]	Amount	% of Payroll[7]	Amount[1]	[(5)/(3)]
(1)	(2)	(3)	(4)	(5)	(6)
2005[2]	7.68%	$38,039,016	7.54%	$37,347,133	98.18%
2006	8.54%	42,277,066	7.63%	37,809,048	89.43%
2007	7.93%	39,623,830	8.20%	40,955,026	103.36%
2008	7.64%	41,699,683	8.13%	44,362,545	106.39%
2009	9.63%	54,392,610	7.63%	43,127,064	79.29%
2010[3]	9.68%	48,995,846	8.34%	42,228,203	86.19%
2011[4]	10.05%	52,000,472	8.83%	45,703,351	87.89%
2012[5]	10.83%	56,054,792	9.62%	49,756,639	88.76%
2013[6]	10.42%	55,397,564	N/A	N/A	N/A

Retiree Medical Plan*
Schedule of Employer Contributions**

Year Beginning January 1:	Annual Required Contribution (ARC)		Contributions *		Percentage of ARC Contributed
	% of Payroll[7]	Amount	% of Payroll[7]	Amount[1]	[(5)/(3)]
(1)	(2)	(3)	(4)	(5)	(6)
2005[2]	0.61%	$3,032,638	0.71%	$3,530,326	116.41%
2006	0.82%	4,081,627	0.82%	4,075,768	99.86%
2007	0.79%	3,929,333	0.90%	4,504,640	114.64%
2008	0.83%	4,532,574	0.78%	4,253,783	93.85%
2009	0.91%	5,156,984	0.81%	4,551,097	88.25%
2010[3]	0.85%	4,290,712	0.58%	2,924,858	68.17%
2011[4]	0.96%	4,965,060	0.81%	4,202,033	84.63%
2012[5]	1.00%	5,153,185	0.82%	4,241,292	82.30%
2013[6]	0.89%	4,721,761	N/A	N/A	N/A

*Figures prior to 2008 were provided by the previous actuary.

**These liabilities represent solely the value of the explicit benefit, without regard to the implicit rate subsidy. The explicit benefit is valued in compliance with all the parameters established by GASB Statements No. 43 and No.45. The value of any implicit rate subsidy in the city-sponsored health plans will be illustrated in the disclosures related to those plans.

1 Employers made contributions based on the legally required rates.
2 Beginning on January 1, 2005, the employers and employees contributed 8.50% and 2.50%, respectively.
3 Beginning on January 1, 2010, the employers and employees contributed 8.50% and 4.50%, respectively.
4 Beginning on January 1, 2011, the employers and employees contributed 9.50% and 5.50%, respectively.
5 Beginning on January 1, 2012, the employers and employees contributed 10.25% and 6.25%, respectively.
6 Beginning on January 1, 2013, the employers and employees contributed 11.00% and 7.00%, respectively and amortization method changed from level dollar 30-year open to level percent of pay 30-year closed.
7 Estimated Payroll

Notes to Required Supplementary Information
(As Required by GASB Statement No. 25)

The information presented in the required supplementary schedules was determined as part of the actuarial valuation at the dates indicated. Additional information as of the latest actuarial valuation follows:

Valuation Date	January 1, 2013
Actuarial Cost Method	Projected Unit Credit
Amortization Method	Level Percent of Pay, Closed
Equivalent Single Amortization Period	30 years
Valuation Asset Method	Smoothed Market
Actuarial Assumptions:	
Investment Rate of Return *	8.00%
Projected Salary Increase *	3.25% to 7.25%
** Includes Price Inflation at*	2.75%
Cost-of-Living Adjustments	Ad-Hoc Only

SECTION E

PARTICIPANT DATA

Retirees, Beneficiaries and Disabled Reconciliation

Valuation Date January 1	No. Added to Rolls	No. Removed from Rolls	Rolls End of Year No.	Rolls End of Year Annual Benefits
2007			6,396	$97,109,973
2008	477	-259	6,614	$101,802,055
2009	474	-215	6,873	$109,243,231
2010	733	-183	7,423	$124,695,435
2011	410	-227	7,606	$130,319,793
2012	457	-287	7,776	$138,317,723
2013	540	-271	8,045	$146,837,873

Age and Service Distribution
January 1, 2013

Nearest Whole Age	Whole Years of Service at Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	Number	Active Payroll
Less than 20	3							3	$ 55,836
20-24	94	5						99	3,396,430
25-29	369	90						459	19,801,502
30-34	423	302	73	3				801	40,851,240
35-39	339	318	219	52	4			932	53,256,479
40-44	275	276	331	238	51	2		1,173	72,343,935
45-49	188	227	309	281	213	53	1	1,272	82,935,999
50-54	184	225	270	254	237	144	75	1,389	91,110,018
55-59	144	153	198	202	177	117	119	1,110	80,718,991
60-64	63	119	158	110	105	58	77	690	47,856,391
65-69	14	40	52	40	30	15	20	211	15,996,739
70 & Over		8	4	11	9		4	36	2,590,612
Totals	**2,096**	**1,763**	**1,614**	**1,191**	**826**	**389**	**296**	**8,175**	**$ 510,914,172**

Historical Summary of Active Member Data*

	Active Members		Covered Payroll		Average Payroll		Average	
1-Jan	Number	% Increase	$ Amount	% Increase	$ Amount	% Increase	Age	Service
2001	10,821		$501,841,985		$46,377			
2002	10,098	(6.7%)	503,694,300	0.4%	49,881	7.6%	43.1	9.6
2003	9,537	(5.6%)	491,635,701	(2.4%)	51,550	3.3%	43.7	10.0
2004	8,868	(7.0%)	467,911,855	(4.8%)	52,764	2.4%	44.1	10.4
2005	8,634	(2.6%)	460,341,857	(1.6%)	53,317	1.0%	44.8	10.9
2006	8,732	1.1%	475,500,445	3.3%	54,455	2.1%	45.3	11.2
2007	8,988	2.9%	489,447,759	2.9%	54,456	0.0%	45.4	11.2
2008	9,304	3.5%	543,728,238	11.1%	58,440	7.3%	45.4	11.0
2009	9,323	0.2%	564,986,660	3.9%	60,601	3.7%	45.5	11.0
2010	8,604	(7.7%)	506,045,186	(10.4%)	58,815	(2.9%)	45.7	11.2
2011	8,403	(2.3%)	517,398,105	2.2%	61,573	4.7%	46.2	11.7
2012	8,149	(3.0%)	517,396,257	(0.0%)	63,492	3.1%	46.3	11.9
2013	8,175	0.3%	531,559,017	2.7%	65,023	2.4%	46.4	11.8

* This schedule does not include participants in DROP and DROP II.

Summary of Membership Data by Category

	January 1	
	2013	2012
Active Members:		
Number	8,175	8,149
Average age (years)	46.4	46.3
Average service (years)	11.8	11.9
Average payroll	$65,023	$63,492
Total payroll supplied, annualized	$531,559,017	$517,396,257
Vested Inactive Members:		
Number	3,402	3,422
Average age (years)	50.49	50.27
Total annual deferred benefits	$20,407,229	$20,584,651
Average annual deferred benefit	$5,999	$6,015
Nonvested Inactive Members:		
Number	1,636	1,605
Average age (years)	44.49	44.34
Contribution Account Balance	$2,809,837	$2,723,265
Service Retirees:		
Number	6,719	6,478
Average age (years)	69.23	69.26
Total annual benefits	$130,909,144	$123,053,558
Average annual benefit	$19,483	$18,996
Disability Retirees:		
Number	320	319
Average age (years)	63.68	62.92
Total annual benefits	$4,688,821	$4,579,536
Average annual benefit	$14,653	$14,356
Beneficiaries:		
Number	1,006	979
Average age (years)	68.76	68.53
Total annual benefits	$11,239,908	$10,684,629
Average annual benefit	$11,173	$10,914

Membership Data Reconciliation

	Actives	Disability	Terminated Vested	Terminated Nonvested	Retiree	Beneficiary	Total
GRS Counts as of January 1, 2012	8,149	319	3,422	1,605	6,478	979	**20,952**
Actives	**30**		(11)	(18)	(1)		
Disability	(2)	**13**	(3)		(8)		
Terminated Vested	(225)		**226**	(1)			
Terminated Nonvested	(225)		(9)	**234**			
Retiree	(225)	0	(221)	(3)	**449**		
Beneficiary		(1)				**1**	
Terminated Annuity (Legal Reasons)							
Terminated Annuity (Refund)	(1)			(6)	(47)	(9)	
Dropped Records			0	(267)		(3)	
Deceased	(9)	(11)	(3)	(3)	(169)	(31)	
New Beneficiaries						65	
New Actives	683	0	0				
Data Correction			1	95	17	4	
Continuing	**7,462**	**307**	**3,175**	**1,307**	**6,253**	**936**	**19,440**
GRS Counts as of January 1, 2013	**8,175**	**320**	**3,402**	**1,636**	**6,719**	**1,006**	**21,258**

SECTION F

METHODS & ASSUMPTIONS

Valuation Methods-Liabilities

***Actuarial Cost Method* - The Projected Unit Credit (PUC) Cost Method** was used in the valuation.

The Projected Unit Credit Cost Method develops a normal cost and an accrued liability based on the benefit accrued as of the valuation date.

The normal cost is the present value of the benefits that accrue during the year. The benefit accrued during the year is the retirement benefit based on pay projected to a member's retirement date, based on service accrued as of the valuation date. The actuarial accrued liability is the present value of benefits allocated to service prior to the valuation date.

Finally, for all funding methods, the total present value of benefits is equal to the accrued liability plus the present value of future normal costs.

***Financing of Unfunded Actuarial Accrued Liabilities* -** Unfunded Actuarial Accrued Liabilities (full funding credit if assets exceed liabilities) were amortized by level (principal & interest combined) percent of pay contributions over a reasonable period of future years.

Deferred Retirement Option Plan (DROP) and DROP II – The DROPs are closed and no new members are assumed to enter either of the two DROPs. For members who were in DROP and remained employed upon their exit from the DROP program, their accrued liability is calculated as the value of their deferred benefit based on compensation and service earned before their DROP participation plus the value of their additional benefit earned based on compensation and service accrued after their DROP participation ended, as well as their accrued DROP balance. Further detail describing the DROPs can be found in the Plan Provisions, Section G of this report.

Benefits Limited to Maximums Specified in Internal Revenue Code (IRC) – Benefits in pay status are limited to the maximum specified by Section 415 of the IRC, as adjusted annually. The benefits in pay status are limited to the maximum compensation permitted by Section 401(a)(17) of the IRC.

Valuation Methods-Assets

***Actuarial Value of Assets* –** The Actuarial Value of Assets recognizes 20% of the difference between the projected actuarial value and the market value at the valuation date. Effective January 1, 2009, this value is no longer constrained to a range of 80% to 120% of the market value of assets as of the valuation date. This method has the effect of smoothing volatility in investment returns. Returns are measured net of all administrative and investment expenses.

Actuarial Standards of Practice Statement #44 provides some guidance in the selection of a method for determining the actuarial value of assets. In particular, when considering utilizing an asset method other than the market value of assets, the method should be selected that is designed to produce actuarial values of assets that bear a reasonable relationship to the corresponding market values. The qualities of the DERP asset value method should include:

The actuarial value of assets should sometimes be greater than, and sometimes lesser than, the market value of assets. The method employed in the DERP valuation does produce asset values which are sometimes greater than, and sometimes less than the market value of assets.

The asset values fall within a sufficiently narrow range around the corresponding market values.

Development of Amortization Payment

Determination of UAAL Contribution Rate

The unfunded accrued liability as of January 1, 2013 is calculated as of the beginning of the fiscal year for which contributions are being made.

The unfunded accrued liability is amortized over the appropriate period to determine the amortization payment. This payment is divided by the projected fiscal year payroll to determine the amortization payment as a percentage of active member payroll.

Valuation Assumptions

The actuarial assumptions used in the valuation are shown in this Section. Both the economic and demographic assumptions were based on an Experience Study performed as of January 1, 2013, and adopted for the January 1, 2013 valuation report.

Changes to Actuarial Assumptions and Methods

The assumptions and methods have been updated since the prior valuation based on an experience study as of January 1, 2013. This experience study was for the period from January 1, 2008 through December 31, 2012. Revised methods include a change from a level dollar amortization payment to a level percent of pay amortization in order to match more closely with the anticipated growth in payroll. Assumptions that were revised are indicated on the following pages.

A. Demographic Assumptions

Mortality rates were adjusted to include margin for future longevity improvement as described below.

1. Post-Retirement and Beneficiary Mortality Table (Revised January 1, 2013): *This table shows the probability of dying after leaving employment either as a vested terminated member, a retiree or a beneficiary of a deceased member.*

   a. Male: RP-2000 Combined Mortality Table for males projected with Scale AA to 2020

   b. Female: RP-2000 Combined Mortality Table for females projected with Scale AA to 2020 with a multiplier of 90%

	% Dying Within Next Year Non-Disabled	
Ages	**Men**	**Women**
50	0.15%	0.11%
55	0.25%	0.21%
60	0.49%	0.41%
65	0.96%	0.79%
70	1.64%	1.36%
75	2.85%	2.15%
80	5.26%	3.59%

2. Disabled Mortality Table (Revised January 1, 2013): *This table shows the probability of dying at sample attained ages.*

   i. Male: RP-2000 Disabled Life Mortality Table for males projected with Scale AA to 2020

   ii. Female: RP-2000 Disabled Life Mortality Table for females projected with Scale AA to 2020

	% Dying Within Next Year Disabled	
Ages	**Men**	**Women**
50	2.01%	0.82%
55	2.41%	1.41%
60	3.05%	1.98%
65	3.78%	2.54%
70	4.63%	3.40%
75	6.19%	4.45%
80	8.95%	6.28%

3. Active Mortality (Revised January 1, 2013): *This table for active members shows the probability of dying before retirement or termination of employment. 15% of the deaths are assumed to be duty-related and 85% are assumed to be non-duty related.*

    i. Male: RP-2000 Combined Mortality Table for males projected with Scale AA to 2020 with a multiplier of 85%

    ii. Female: RP-2000 Combined Mortality Table for females projected with Scale AA to 2020 with a multiplier of 85%

	% Dying Within Next Year Non-Disabled	
Ages	**Men**	**Women**
20	0.02%	0.01%
25	0.03%	0.01%
30	0.03%	0.02%
35	0.06%	0.03%
40	0.08%	0.04%
45	0.10%	0.07%
50	0.13%	0.10%

4. Rates of Disability (Revised January 1, 2013): *15% of the disabilities are assumed to be duty-related and 85% are assumed to be non-duty related.*

	% Becoming Disabled Within Next Year	
Ages	**Duty**	**Non-Duty**
20	0.00%	0.02%
25	0.00%	0.02%
30	0.00%	0.02%
35	0.00%	0.03%
40	0.01%	0.06%
45	0.02%	0.11%
50	0.04%	0.23%
55	0.07%	0.37%
60	0.10%	0.57%
65	0.15%	0.85%

5. Rates of Separation from Active Membership (Revised January 1, 2013 for Non-Hospital only): *Rates do not apply to members eligible to retire and do not include separation on account of death or disability. For inactive members, the assumed age at retirement is 65. If an inactive member is not vested, the liability valued is equal to their employee contributions plus interest. Rates are not applied after the member is eligible for reduced or unreduced retirement benefits.*

Non Hospital		
	Select Period	
Years of Service	% of Active Members Separating Within Next Year	
	Men	Women
1	15.97%	19.84%
2	13.73%	17.11%
3	11.81%	14.76%
4	10.15%	12.72%
5	8.73%	10.97%
6	7.51%	9.46%
7	6.46%	8.16%
8	5.55%	7.04%
9	4.77%	6.07%

Non Hospital		
	Ultimate Rates	
Ages	% of Active Members Separating Within Next Year*	
	Men	Women
25	6.25%	9.00%
30	5.50%	7.75%
35	4.75%	6.50%
40	4.00%	5.50%
45	3.25%	4.50%
50	2.50%	3.50%
55	1.90%	2.70%
60	1.90%	2.70%
64	1.90%	2.70%

*Members with 10 or more years of service

Hospital		
Ages	% of Active Members Separating Within Next Year	
	Men	Women
30	14.84%	15.41%
35	12.92%	11.91%
40	10.72%	8.40%
45	7.97%	5.60%
50	4.40%	5.60%
55	1.10%	5.60%
60	1.10%	5.60%
64	1.10%	5.60%

6. Rates of Retirement (Revised January 1, 2013): *This table for active members shows the probability of eligible members retiring during the next year.*

Non Hospital

Ages	Percent of Eligible Active Members Retiring Within Next Year: Early Retirement	Normal Retirement
55	2.50%	N/A
56	2.75%	N/A
57	3.00%	N/A
58	3.25%	N/A
59	3.50%	N/A
60	3.75%	N/A
61	4.00%	N/A
62	10.00%	N/A
63	10.00%	N/A
64	10.00%	N/A
65	N/A	20.00%
66	N/A	18.00%
67	N/A	18.00%
68	N/A	18.00%
69	N/A	18.00%
70	N/A	100.00%

Hospital

Ages	Percent of Eligible Active Members Retiring Within Next Year: Early Retirement	Normal Retirement
55	2.50%	N/A
56	2.75%	N/A
57	3.00%	N/A
58	3.25%	N/A
59	3.50%	N/A
60	3.75%	N/A
61	4.00%	N/A
62	10.00%	N/A
63	10.00%	N/A
64	10.00%	N/A
65	N/A	20.00%
66	N/A	18.00%
67	N/A	18.00%
68	N/A	18.00%
69	N/A	18.00%
70	N/A	18.00%
71	N/A	18.00%
72	N/A	18.00%
73	N/A	18.00%
74	N/A	18.00%
75	N/A	100.00%

	Percent of Eligible Active Members Retiring Within Next Year
Ages	**Rule of 75 Retirement**
NAR*	22.00%
NAR+1	14.00%
NAR+2	14.00%
NAR+3	14.00%
NAR+4	14.00%
NAR+5	14.00%
NAR+6	18.00%
NAR+7	22.00%
NAR+8	26.00%
NAR+9	30.00%
NAR+10	30.00%

*NAR, Normal Age at Retirement, is defined as the first age at which a member is eligible to retire under the Rule of 75 with a minimum age of 55 (or Rule of 85 with a minimum age of 60 if hired after July 1, 2011) (Refer to Section G). After attainment of age 70 (age 75 for the Hospital group) the retirement rate assumption is 100.00%.

B. Economic Assumptions

1. Investment Return Rate: 8.00% per annum, compounded annually, net of investment and administrative expenses.
2. Cost of Living Increases: 0.00% per annum
3. Wage Inflation Rate: 2.75% per annum (Revised January 1, 2013)
4. Real Rate of Return: 5.25% per annum (Revised January 1, 2013)
5. The Rates of Salary Increase (Revised January 1, 2013): *Assumed salary increases for active members are in accordance with the following table. This assumption is used to project a member's current salary to the salaries upon which benefits will be based.*

Non Hospital			
	% Increase in Salary for the Year		
Sample Ages	**Merit and Seniority**	**Base (Economic)***	**Increase for the Year**
20	4.00%	3.25%	7.25%
25	3.50%	3.25%	6.75%
30	2.50%	3.25%	5.75%
35	2.00%	3.25%	5.25%
40	1.25%	3.25%	4.50%
45	0.50%	3.25%	3.75%
50	0.00%	3.25%	3.25%
55	0.00%	3.25%	3.25%
60	0.00%	3.25%	3.25%
65	0.00%	3.25%	3.25%

Hospital			
	% Increase in Salary for the Year		
Sample Ages	**Merit and Seniority**	**Base (Economic)***	**Increase for the Year**
30	0.00%	3.25%	3.25%
35	0.00%	3.25%	3.25%
40	0.00%	3.25%	3.25%
45	0.00%	3.25%	3.25%
50	0.00%	3.25%	3.25%
55	0.00%	3.25%	3.25%
60	0.00%	3.25%	3.25%
65	0.00%	3.25%	3.25%

**Salary increases shown include wage inflation of 3.25% per annum.*

C. Miscellaneous and Technical Assumptions

Administrative & Investment Expenses	The investment return assumption is intended to be the return net of investment and administrative expenses.
Benefit Service	Exact fractional service is used to determine the amount of benefit payable.
COLA	None assumed.
Covered Payroll	Maximum annual payroll for the past three years projected forward with one year's salary increase.
Decrement Operation	All decrements other than withdrawal are in force during retirement eligibility.
Decrement Timing	Decrements of all types are assumed to occur mid-year.
Eligibility Testing	Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
Incidence of Contributions	Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made.
Marriage Assumption	75% of males and 60% of females are assumed to be married for purposes of death-in-service benefits and 75% of males and 60% of females are assumed to be married for purposes of retiree medical benefits. Male spouses are assumed to be the same age as female spouses for active member valuation purposes.
Normal Form of Benefit	A straight life annuity is the normal form of benefit.
Pay Increase Timing	Beginning of year. This is equivalent to assuming that reported pays represent annualized rates of pay on the valuation date.
Service Credit Accruals	It is assumed that members accrue one year of service credit per year.
Split of Member and Employer Contributions	For the Schedule of Employer Contributions the member and employer contributions are split between the pension and medical funds based on their respective ratios to the Total Computed Contribution Rate developed in the previous year's actuarial valuation.

Terminal Pay	For members hired prior to January 1, 2010, unused sick and vacation hours are converted into pay at retirement, death, disability or termination. That converted amount is included in the Final Average Compensation (FAC). The valuation accounts for this by assuming the FAC will be increased by 5.00% for active retirement benefits and increased by 2.25% for active ordinary death and termination benefits for members hired prior to January 1, 2010.
Retiree Medical Election Percentage	It is assumed that 85% of members who retire elect medical benefits, 30% of members who terminate elect medical benefits, 80% of beneficiaries elect medical benefits, and 80% of members who leave as disabled members elect retiree medical benefits.

SECTION G

PLAN PROVISIONS

Plan Provisions

A. Ordinances

Amended and Restated under Denver Municipal Code Section 18-391 through 18-430.7. Most recently amended under Ordinance No. 661-12, adopted December 2012.

B. Effective Date

January 1, 1963

C. Plan Year

January 1 through December 31

D. Type of Plan

Qualified, 401(a) governmental defined benefit retirement plan; for GASB purposes it is a multi-employer cost sharing plan.

E. Eligibility Requirements

Elected Officials, Appointed Officials, and Employees as defined in Denver Municipal Code Sections 18-402 and 18-406.

F. Credited Service

Service measured in completed calendar months from date of employment to date of retirement or prior termination.

G. Compensation

Gross pay, compensation and salary shall mean that amount of remuneration, including wages, salaries, other amounts received for personal services actually rendered in the course of employment with the employer, and other amounts actually included or that could be included in gross income of and due to an employee, including employees on disability leave as provided for in division 4 of article V of chapter 18 of the Denver Municipal Code, or otherwise, from the employer in the full amount as calculated before any reductions or deductions are made for any purpose, including reductions or deductions by reason of sections 125, 132(f)(4) or 457 of the Internal Revenue Code, but not including distributions made from a plan of the employer designed to be eligible under section 457. Employer provided fringe benefits receiving special tax benefits, such as premiums for group term life insurance (to the extent excludible from gross income), shall be excluded from the definition of compensation. The calendar year shall be the limitation year (determination period) for purposes of section 415 of the Internal Revenue Code.

H. Final Average Compensation (FAC)

Average monthly rate of compensation during the highest 36 (60 for members hired on or after July 1, 2011) successive calendar months of covered service.

I. Normal Retirement

1. Eligibility: For employees hired prior to July 1, 2011, attainment of age 65, or attainment of age 55 with age plus credited service equal to 75. For Employees hired July 1, 2011 or after, attainment of age 65 with 5 years of service, or attainment of age 60 with age plus credited service equal to 85.
2. Benefit: 1.5% (2.0% if hired before September 1, 2004) of FAC times credited service.

3. Normal Form: straight life annuity.

J. Early Retirement

1. Eligibility: Attainment of age 55 (60 for members hired on or after July 1, 2011) and completion of 5 years.
2. Benefit: Benefit accrued to date of retirement, reduced by 3% (6% for members hired on or after July 1, 2011) per year from age 65 to reflect commencement of benefit at an earlier age.

K. Temporary Early Retirement

Pending approval of a disability application, a retirement benefit is available to an active, vested member who is at least age 55 or age 60, if hired on or after July 1, 2011. This benefit is designed to provide income to the member during the process of fulfilling the disability application requirements. There is a three year limit on this retirement benefit.

L. Deferred Retirement

1. Eligibility: Any vested employee who terminates service for any reason other than retirement, disability, or death and leaves their accumulated contributions on deposit in the trust fund.
2. Benefit: Based on the formula in effect at the time of separation from service. Payment may commence any month after the member's 55th birthday, if hired prior to July 1, 2011, or after the member's 60th birthday, if hired July 1, 2011 or later.

M. Service Connected Disability

1. Eligibility: Any employee who becomes totally and permanently disabled as defined in Denver Municipal Code Section 18-408(d) which arises out of and in the course of the member's employment with the employer.
2. Benefit: Based on the greater of 20 years of service or actual service plus 10 years. Total credited service cannot exceed the credited service the member would have earned at age 65.

N. Non-Service Connected Disability

1. Eligibility: Any vested employee who becomes totally and permanently disabled as defined in Denver Municipal Code Section 18-408(e) which does not occur as a result of a service connected disability.
2. Benefit: The higher of 75% of the amount calculated for a service-connected disability or the amount calculated for an early retirement.

O. Death in the Line of Duty

The active member's surviving spouse is awarded the retirement benefit the member would have been entitled at their normal retirement date based on the higher of 15 years of service or actual credited service plus 5 years. Total credited service cannot exceed the credited service the member would have earned at age 65. If there is no surviving spouse but the member has children under age 21, then the benefit shall be paid until the youngest child becomes age 21. If there is no surviving spouse and no children under age 21, then the benefit shall be paid to a designated beneficiary.

P. Other Pre-Retirement Death

The active member's surviving spouse is awarded 75% of the benefit that would have been entitled had the death been service connected. If an active member who has attained the age of fifty-five (55) or the age of sixty (60) if hired on or after July 1, 2011 dies prior to the actual retirement date, the member shall be deemed to have retired on the first day of the month following the month in which death occurs and the surviving spouse will receive an annuity as if the member had elected the 100% joint and survivor option if this will result in a greater benefit to the spouse than the above provision.

Q. Post-Retirement Death

1. For Normal Retirement (with at least 5 years of service), Disability Retirement (after age 65), and for Temporary Early Retirement (pending approval of disability) the lump-sum death benefit is $5,000.
2. For Disability Retirement before age 65, the death benefit is 150% of the member's annualized average monthly salary, limited to $50,000. This benefit reduces to $5,000 upon the disabled member reaching age 65.
3. If hired prior to July 1, 2011, for Early Retirement the lump-sum at age: 64 is $4,750; 63 is $4,500; 62 is $4,250; 61 is $4,000; 60 is $3,750; 59 is $3,500; 58 is $3,250; 57 is $3,000; 56 is $2,750; 55 is $2,500.
4. If hired on or after July 1, 2011, for Early Retirement the lump-sum at age: 64 is $4,500; 63 is $4,000; 62 is $3,500; 61 is $3,000; 60 is $2,500.

R. Optional Forms

Joint and Survivor Option - Any employee retiring under the normal retirement provision may elect a joint and survivor benefit. The member's benefit is actuarially reduced based on their election: 100%, 75%, or 50%. Once the benefit commences this election cannot be changed. If the spouse or designated beneficiary predeceases the member, the benefit paid to the member shall be increased to the full single straight life annuity as if no joint and survivor benefit had been selected.

S. Medical Benefits

Retiree Medical Plan Benefits – Participants and their surviving spouses or dependents receiving retirement benefits are eligible to elect to receive plan-provided retiree medical coverage and a plan-provided subsidy (benefit) to help provide for the payment of health insurance premiums. The Plan contributes $6.25 per month for each year of service for members who are Medicare eligible. The Plan contributes $12.50 per month for each year of service for members not eligible for Medicare. In the event of the election of a Joint and Survivor option, the benefit is calculated based on the age of the member. If the member predeceases the joint and survivor beneficiary then the full benefit is transferred to the surviving spouse or dependent regardless of the joint and survivor election percentage. The monthly benefit is limited to the monthly premium amount for the coverage elected. If a member dies and leaves a beneficiary who is not a spouse or dependent, that beneficiary can elect to participate in the group health plan, but must pay the full cost. No plan contribution can be made for non-spouse or non-dependent beneficiaries.

T. Refunds

1. Eligibility: All members leaving covered employment with less than 5 years of service are eligible. Vested members (those with 5 or more years of service) may not withdraw their accumulated contributions plus interest in lieu of the deferred benefits otherwise due.
2. Benefit: The member who withdraws receives a lump-sum payment of his/her employee contributions, plus the interest credited on these contributions. Interest is credited at 3.00%.

U. Member Contributions

Increased from 6.25% of compensation to 7.00% of compensation, effective January 1, 2013.

V. Employer Contributions

Increased from 10.25% of compensation to 11.00% of compensation, effective January 1, 2013 for each member.

W. Cost of Living Increases

Given on an ad-hoc basis. There have been no cost of living increases since 2002.

X. Changes from Previous Valuation

There have been no changes in the plan provisions since the previous actuarial valuation, except for those specified herein.

Y. Deferred Retirement Option Plan

1. DROP – From January 1, 2001 through April 30, 2003, in lieu of immediate termination of employment and receipt of a normal retirement benefit, eligible members were permitted to continue employment for four years and have their normal retirement benefit paid into the deferred retirement option plan (DROP) account, after which time the participant either terminated employment or continued to be employed and resume regular membership with the retirement plan.
2. DROP II – From May 1, 2003 through September 1, 2003, in lieu of immediate termination of employment and receipt of a normal retirement benefit, eligible members were permitted to continue employment for five years and have their normal retirement benefit paid into the DROP II account after which time all participants terminated employment.

Z. Other Ancillary Benefits

Social Security Make-Up Benefit – For members hired before July 1, 2011 and retiring on or after January 1, 1996, an additional retirement benefit equal to the applicable percentage (per Denver Municipal Code Section 18-409(i)) of the member's estimated primary Social Security benefit multiplied by credited service with the City/DHHA during which the contributions were made to Social Security (up to a maximum of 35 years of credited service) divided by 35. This additional benefit is payable beginning on the first day of the month after the member's 62nd birthday or the member's retirement date, whichever is later, but will not be paid before retirement benefits have begun from the Plan. Members retiring under a disability form of retirement are not eligible for this benefit.

SECTION H

GLOSSARY

Glossary

Actuarial Accrued Liability (AAL)	The difference between the Actuarial Present Value of Future Benefits, and the Actuarial Present Value of Future Normal Costs. The total present value of benefits is the sum of the AAL and the Present Value of Future Normal Costs.
Actuarial Assumptions	Assumptions about future plan experience that affect costs or liabilities, such as: mortality, withdrawal, disablement, and retirement; future increases in salary; future rates of investment earnings; future investment and administrative expenses; characteristics of members not specified in the data, such as marital status; characteristics of future members; future elections made by members; and other items.
Actuarial Cost Method	A procedure for allocating the Actuarial Present Value of Future Benefits between the Actuarial Present Value of future Normal Costs and the Actuarial Accrued Liability.
Actuarial Equivalent	Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.
Actuarial Present Value	The amount of funds required to provide a payment or series of payments in the future. It is determined by discounting the future payments with an assumed interest rate and with the assumed probability each payment will be made.
Actuarial Present Value of Future Benefits	The Actuarial Present Value of amounts which are expected to be paid at various future times to active members, retired members, beneficiaries receiving benefits, and inactive, nonretired members entitled to either a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.
Actuarial Valuation	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 plan. An Actuarial Valuation for a governmental retirement system typically also includes calculations of items needed for compliance with GASB No. 25, such as the Funded Ratio and the Annual Required Contribution (ARC).
Actuarial Value of Assets	The value of the assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets or a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the actuarially required contribution (ARC). The actuarial value of assets is the asset amount used to determine the unfunded accrued liability, the funded ratio and the ARC

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Amortization Method	A method for determining the Amortization Payment. The choices are level dollar and level percentage of payroll; and open period versus closed period. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the Amortization payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the stream of payments increases at the rate at which total covered payroll of all active members is assumed to increase. For an open amortization method (either level dollar or level percent of pay), the amortization period does not decline each year. Thus, at the end of a given period, an open amortization period may still have a remaining UAAL balance.
Amortization Payment	That portion of the plan contribution or ARC which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability. As a special note, it is possible that an open method level percent of pay payment may not pay off principle in early years.
Amortization Period	The period used in calculating the Amortization Payment.
Annual Required Contribution (ARC)	Under GASB 25, the employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation. The ARC consists of the Employer Normal Cost and Amortization Payment. For Section D, the ARC is defined to be the sum of (a) the employer normal cost, and (b) the amount needed to amortize the UAAL as a level dollar amount over 30 years.
Closed Amortization Period	A specific number of years that is reduced by one each year, and declines to zero with the passage of time. For example if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc.
Employer Normal Cost	The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.
Equivalent Single Amortization Period	For plans that do not establish separate amortization bases (separate components of the UAAL), this is the same as the Amortization Period. For plans that do establish separate amortization bases, this is the period over which the UAAL would be amortized if all amortization bases were combined upon the current UAAL payment.

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Experience Gain/Loss	A measure of the liability difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two actuarial valuations. To the extent that actual experience differs from that assumed, Unfunded Actuarial Accrued Liabilities emerge which may be larger or smaller than projected. Gains are due to favorable experience, e.g., the assets earn more than projected, salaries do not increase as fast as assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, losses are the result of unfavorable experience, i.e., actual results that produce Unfunded Actuarial Accrued Liabilities which are larger than projected.
Funded Ratio	The ratio of the Actuarial Value of Assets to the Actuarial Accrued Liability.
GASB	Governmental Accounting Standards Board.
GASB No. 25 and GASB No. 27	These are the governmental accounting standards that set the accounting rules for public retirement systems and the employers that sponsor or contribute to them. Statement No. 27 sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 25 sets the rules for the systems themselves.
GASB No. 43 and GASB No. 45	These are the governmental accounting standards that set the accounting rules for postemployment benefits other than pensions for the public retirement systems and employers that sponsor or contribute to them. Statement No. 43 sets the accounting rules for the employers, while Statement No. 45 sets the rules for the systems themselves
Normal Cost	The annual cost assigned, under the Actuarial Cost Method, to the current plan year.
Open Amortization Period	An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. In other words, if the initial period is set as 30 years, the same 30-year period is used in determining the Amortization Period each year. In theory, if an Open Amortization Period is used to amortize the Unfunded Actuarial Accrued Liability, the UAAL will never completely disappear, but will become smaller each year, either as a dollar amount or in relation to covered payroll.
Select Period for Separation Rates	A select period sets separation rates for an employee's first "select" years of service. After the employee works beyond the select period, then the ultimate separation rates are used based on the employee's age.
Unfunded Actuarial Accrued Liability	The difference between the Actuarial Accrued Liability and Actuarial Value of Assets.
Valuation Date	The date as of which the Actuarial Present Value of Future Benefits are determined. The benefits expected to be paid in the future are discounted to this date.

SECTION I

OTHER SPECIAL REQUIREMENTS

Determination of DHHA Supplemental Contributions Pension Plan

	2013	2012
Average Age for Active Members at Hospital	52.21	51.71
Number of Active Members at Hospital	728	805
Average Age for Active Members Non-Hospital	45.78	45.71
Number of Active Members Non-Hospital	7,447	7,344
Normal Cost for Hospital	$8,603,385	$8,464,459
Estimated Payroll for Hospital	65,329,337	68,689,514
Normal Cost as a Percent of Hospital Payroll	13.17%	12.32%
Normal Cost for Non-Hospital	$47,586,055	$43,380,493
Estimated Payroll for Non-Hospital	466,229,679	448,706,742
Normal Cost as a Percent of Non-Hospital Payroll	10.21%	9.67%
Difference in Normal Cost as a Percent of Payroll	2.96%	2.65%
Estimated Payroll for Hospital	$65,329,337	$68,689,514
Difference in Normal Cost as a Dollar Amount	1,933,748	1,820,272

Determination of DHHA Supplemental Contributions Retiree Medical Plan

	2013	2012
Average Age for Active Members at Hospital	52.21	51.71
Number of Active Members at Hospital	728	805
Average Age for Active Members Non-Hospital	45.78	45.71
Number of Active Members Non-Hospital	7,447	7,344
Normal Cost for Hospital	$336,434	$335,828
Estimated Payroll for Hospital	65,329,337	68,689,514
Normal Cost as a Percent of Hospital Payroll	0.51498%	0.48891%
Normal Cost for Non-Hospital	$2,388,497	$2,216,687
Estimated Payroll for Non-Hospital	466,229,679	448,706,742
Normal Cost as a Percent of Non-Hospital Payroll	0.51230%	0.49402%
Difference in Normal Cost as a Percent of Payroll	0.002681%	-0.005110%
Estimated Payroll for Hospital	$65,329,337	$68,689,514
Difference in Normal Cost as a Dollar Amount	$1,752	-$3,510