GRS Gabriel Roeder Smith & Company
Consultants & Actuaries

DENVER PUBLIC SCHOOLS RETIREMENT SYSTEM

ANNUAL ACTUARIAL VALUATION REPORT
DECEMBER 31, 2009

CONTENTS

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June 10, 2010

The Board of Trustees
Colorado PERA
Denver, Colorado

Dear Board Members:

The results of the ***Annual Actuarial Valuation*** of the Denver Public Schools Retirement System are presented in this report. The purpose of the valuation was to measure the system's funding progress and to determine the computed employer contribution rate for the next fiscal year.

The valuation was based upon information, furnished by Retirement System staff, concerning Retirement System benefits, financial transactions, and active members, terminated members, retirees and beneficiaries. Data was checked for internal and year-to-year consistency, but was not otherwise audited. All promised benefits were included in the actuarially computed contribution rates.

The date of the valuation was ***December 31, 2009.***

To the best of our knowledge, this report is complete and accurate and the valuation was conducted in accordance with standards of practice prescribed by the Actuarial Standards Board. It is our opinion, that the actuarial assumptions used for the valuation produce results which are reasonable.

The signing actuaries are Members of the American Academy of Actuaries (MAAA) as indicated, and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Respectfully submitted,

Kenneth G. Alberts

Norman L. Jones, FSA, MAAA

KGA:mrb

SECTION A

VALUATION RESULTS

FUNDING OBJECTIVE AND EXECUTIVE SUMMARY

The funding objective of the Retirement System is to establish and receive contributions, expressed as percents of active member payroll, that will accumulate assets during each member's working years which, together with regular interest, will be sufficient to pay promised benefits after retirement.

EXECUTIVE SUMMARY

- The recommended employer contribution rate for the fiscal year beginning July 1, 2011, based on normal cost plus 30-year amortization of unfunded accrued liabilities is 11.85% of payroll.
- There was an experience loss equal to 2.6% of beginning of year accrued liabilities. The details of that loss are shown on pages A-4 and A-5. The loss is comprised of a 3.0% loss due to recognized investment return less than assumed and a 0.4% gain due to liability growth less than assumed.
- Effective with this valuation, the following changes as a result of the merger were included in the valuation:
    - The timing of the post retirement COLA was changed from January 1 to March 1, with a one-time adjustment for the change (as reported in the data);
    - Interest credits to member contributions were reduced from 5% to 3%;
    - The disability benefits will now be calculated under the PERA rules (service for the disability period is granted immediately in the calculation of benefits and benefits no longer change at retirement age);
    - Hourly and part-time members become members of the retirement system as of January 1, 2010 with no past service credit;
    - Recognized the differences between the expected net statutory employer contributions and the actuarially required contributions.

  These changes resulted in a decrease in the actuarial accrued liability of approximately $9 million.
- Effective with this valuation, the following changes in methods and assumptions were included in the valuation:
    - The assumed rate of return was lowered to 8%;

- Mortality rates were set to rates currently used by PERA (1994 GAM with adjustments);
- The normal cost for each member was based on the tier of benefits that the member was eligible for (instead of the normal cost applicable to new hires).

These changes resulted in an increase in accrued liabilities of approximately $212 million.

- The following changes in benefit conditions as established by Senate Bill 10-001 were also included in the valuation:

  - Timing of future COLA payments was changed (from March 1 to July 1);
  - COLA for 2010 set to 0%;
  - Changes in COLA determination for years after 2010 (assumed to be 2% per year);
  - For members who retire on or after January 1, 2011, eligibility for COLA is the first July 1 that is at least 12 months after retirement;
  - For members eligible to retire after January 1, 2011 (who were not eligible to retire on or before January 1, 2011), eligibility for COLA is the later of;
    - The first July 1, that is at least 12 months after retirement;
    - Age 60 or the date the member would have been eligible for normal retirement (if member retires with reduced early retirement benefits);
  - Change early retirement reduction factors to actuarial equivalence;
  - For members who obtained 5 years of service after January 1, 2011, set age 55 as the minimum retirement age under the Rule of 85;
  - For members who became members after January 1, 2010, provide a 50% employer match on refunds for members with 5 or more years of service at time of refund – match only applies to contributions made on or after January 1, 2011;
  - Other changes that apply to future members.

  These changes resulted in a decrease in accrued liabilities of approximately $514 million dollars.

The funded status as of December 31, 2009 is 88% based on the actuarial value of assets. Based on the current rates of employer contributions over the next several years, the funded status is expected to deteriorate, since the level of contributions will not cover normal costs.

If the 2010 level of employer contributions are maintained (1.39% of covered payroll), the fund could be depleted in 20 to 30 years.

CONTRIBUTIONS TO PROVIDE BENEFITS EXPRESSED AS PERCENTS OF ACTIVE MEMBER PAYROLL FOR FISCAL YEARS BEGINNING JULY 1, 2010 AND 2011

	Employer Fiscal Year Beginning 7/1/11	Beginning 7/1/10
Contributions for	**Recommended#**	**Recommended**
Normal cost of benefits:		
Age & service	11.91 %	11.85 %
Disability	0.82 %	1.00 %
Death-in-service	0.19 %	0.22 %
Refunds of member contributions	2.11 %	2.25 %
Total normal cost	15.03 %	15.32 %
Member contributions	8.00 %	8.00 %
Employer normal cost	7.03 %	7.32 %
Unfunded actuarial accrued liabilities	4.82 %*	7.98 %*
COMPUTED EMPLOYER RATE	**11.85 %**	**15.30 %**
Expected Employer Rate@	3.08 %	1.78 %
Contribution Deficiency	8.77 %	13.52 %

* *Amortized as a level percent-of-payroll over an open period of 30 years.*

\# *Results shown include changes in benefit provisions, methods, and assumptions.*

@ *Based on the following calendar year estimated net employer pension rates (Statutory rate less pension certificate debt service, health care contributions and annuity increase reserve contributions):*

	Pre 1/1/2010 Members	***Post 12/31/2009 Members***
CY10	*1.39*	*0.39*
CY11	*2.70*	*1.70*
CY12	*4.00*	*3.00*

Actual employer contributions for the last completed calendar (plan) year were reported to be $15,841,465.

The remaining amortization period based on current expected employer rate is infinite (i.e., the current net employer contributions for pensions are insufficient to fund liabilities).

DERIVATION OF EXPERIENCE GAIN (LOSS)
YEAR ENDED DECEMBER 31, 2009

Actual experience will never (except by coincidence) coincide exactly with assumed experience. Gains and losses often offset one another over a period of years, but sizable year-to-year fluctuations are common. Detail on the derivation of the experience gain (loss) is shown below.

	12/31/2009
(1) UAAL* at start of year	$548,718,981
(2) Normal cost from last valuation	60,434,534
(3) Actual contributions	50,844,562
(4) Interest accrual: [(1) + {(2)-(3)}/2] x .085	47,048,687
(5) Expected UAAL before changes: (1) + (2) - (3) + (4)	605,357,640
(6) Change in benefit provisions	
(i) PERA Merger	(8,734,743)
(ii) SB 10-001	(513,682,625)
(7) Changes in methods and assumptions	211,879,212
(8) Expected UAAL after changes: (5) + (6) + (7)	294,819,484
(9) Actual UAAL at end of year	386,839,278
(10) Gain (loss): (8) - (9)	$ (92,019,794)
(11) Gain (loss) as percent of actuarial accrued liabilities at start of year ($3,493,010,997)	(2.6%)

* *Unfunded actuarial accrued liability.*

DERIVATION OF EXPERIENCE GAIN (LOSS) BY SOURCE
YEAR ENDED DECEMBER 31, 2009

	$ Amount	% of AAL*
Age & Service Retirements Less members retired than assumed, causing a gain.	$1,674,744	0.0%
Disability Retirements Disability claims were less than assumed, causing a gain.	381,345	0.0%
Death-in-Service Benefits Survivor claims were less than assumed, causing a gain.	89,096	0.0%
Withdrawal from Employment Less liabilities were released by withdrawals than assumed, causing a loss.	(7,305,935)	(0.2%)
Pay Increases Pay increases were lower than assumed, causing a gain.	8,974,123	0.3%
Investment Income Recognized investment income was less than assumed, causing a loss.	(106,179,505)	(3.0%)
New Entrants New members with prior service, causing a loss.	(4,267,546)	(0.1%)
Death After Retirement Retirees lived for a longer period than assumed, causing a loss.	(14,115,864)	(0.4%)
Other Miscellaneous gains and losses resulting from other data adjustments, timing of financial transactions, subsidized service purchases, recognition of additional outside and non-qualified service, etc.	28,729,748	0.8%
Gain (or Loss) During Year From Experience	$ (92,019,794)	(2.6%)

** AAL: Beginning of year actuarial accrued liability.*

Present Resources and Expected Future Resources

A.	Present valuation assets	
	1. Net assets from system financial statements	$2,745,992,239
	2. Funding value adjustment	171,934,419
	3. Valuation assets	2,917,926,658
B.	Actuarial present value of expected future employer contributions	
	1. For normal costs	241,875,636
	2. For unfunded actuarial accrued liability	386,839,278
	3. Totals	628,714,914
C.	Actuarial present value of expected future member contributions	276,282,726
D.	**Total Present and Expected Future Resources**	**$3,822,924,298**

Actuarial Present Value of Expected Future Benefit Payments

A.	To retirees and beneficiaries	
	1. Annual allowances	$2,268,130,293
	2. Unallocated Reserve	0
	3. Totals	2,268,130,293
B.	To vested terminated members	36,677,451
C.	To present active members	
	1. Allocated to service rendered prior to valuation date - actuarial accrued liability	999,958,192
	2. Allocated to service likely to be rendered after valuation date	518,158,362
	3. Totals	1,518,116,554
D.	**Total Actuarial Present Value of Expected Future Benefit Payments**	**$3,822,924,298**

COMPUTED EMPLOYER CONTRIBUTIONS
COMPARATIVE STATEMENT

	Active Members				Retirees & Beneficiaries			Employer Contribution Rate		
		Valuation Payroll				Annual Benefits			Unfunded	
December 31,	No.#	Total	Average	% Incr.	No.	Dollars	% of Payroll	Normal Cost	Accrued Liabilities	Total
2000	7,182	$292,404,031	$40,713	2.94 %	5,222	$ 125,550,888	42.9 %	N/A	N/A	2.90 %
2001	7,466	307,833,700	41,231	1.27 %	5,514	141,383,423	45.9 %	6.75 %	(1.77)%	4.98 %*
2002@	7,691	331,607,085	43,116	4.57 %	5,610	151,283,074	45.6 %	7.42 %	0.70 %	8.12 %*
2003	7,311	318,121,662	43,513	0.92 %	5,699	160,764,146	50.5 %	7.79 %	0.87 %	8.66 %*
2004@!	7,192	315,156,876	43,820	0.71 %	5,869	174,668,685	55.4 %	7.35 %	3.79 %	11.14 %*
2005	7,179	318,405,492	44,352	1.21 %	5,961	185,016,528	58.1 %	7.83 %	5.00 %	12.83 %*
2006@	7,102	328,608,500	46,270	4.32 %	6,069	194,691,350	59.2 %	7.58 %	6.43 %	14.01 %
2007	7,282	357,049,419	49,032	5.97 %	6,168	204,760,169	57.3 %	7.57 %	6.35 %	13.92 %
2008!	7,540	388,651,516	51,545	5.13 %	6,186	212,221,188	54.6 %	7.32 %	7.98 %	15.30 %
2009&	**8,003**	**420,313,856**	**52,520**	**1.89 %**	**6,218**	**214,367,097**	**51.0 %**	**7.30 %**	**9.18 %**	**16.48 %**
2009^	**12,149**	**491,749,509**	**40,477**	**(21.47)%**	**6,218**	**214,367,097**	**43.6 %**	**7.03 %**	**4.82 %**	**11.85 %**

* *Based on funding policy, which phased into 100% of the rate recommended by the actuary.*
\# *Excludes affiliate members.*
@ *After experience study.*
! *After changes in benefit provisions.*
& *Before changes in benefit provisions, methods, and assumptions*
^ *After changes in benefit provisions, methods, and assumptions.*

ACTUARIAL ACCRUED LIABILITIES & VALUATION ASSETS
COMPARATIVE STATEMENT

December 31	Actuarial Accrued Liability (AAL)	Valuation Assets	Unfunded Actuarial Accrued Liability (UAAL) (1) - (2)	Ratio of Present Assets to AAL (2)/(1)	Annual Covered Payroll	Ratio of UAAL to Valuation Payroll (3)/(5)
	(1)	(2)	(3)	(4)	(5)	(6)
2000	$2,371,925,173	$2,308,030,298	$ 63,894,875	97.3 %	$292,404,031	21.9 %
2001	2,550,556,774	2,462,548,441	88,008,333	96.5 %	307,833,700	28.6 %
2002*	2,712,292,741	2,465,049,249	247,243,492	90.9 %	331,607,085	74.6 %
2003	2,793,788,109	2,531,745,553	262,042,556	90.6 %	318,121,662	82.4 %
2004*@	2,960,990,156	2,611,523,735	349,466,421	88.2 %	315,156,876	110.9 %
2005	3,065,854,901	2,693,685,848	372,169,053	87.9 %	318,405,492	116.9 %
2006*	3,233,713,315	2,854,304,339	379,408,976	88.3 %	328,608,500	115.5 %
2007	3,383,258,097	2,968,794,036	414,464,061	87.7 %	357,049,419	116.1 %
2008@	3,493,010,997	2,944,292,016	548,718,981	84.3 %	388,651,517	141.2 %
2009&	**3,615,304,092**	**2,917,926,658**	**697,377,434**	**80.7 %**	**420,313,856**	**165.9 %**
2009^	**3,304,765,936**	**2,917,926,658**	**386,839,278**	**88.3 %**	**491,749,508**	**78.7 %**

* *After experience study.*
@ *After changes in benefit provisions.*
& *Before changes in benefit provisions, methods, and assumptions.*
^ *After changes in benefit provisions, methods, and assumptions.*

The Ratio of Valuation Assets to AAL is a traditional measure of a system's funding progress. Except in years when the system is amended or actuarial assumptions are revised or there are extraordinary experience gains or losses, this ratio can be expected to move gradually toward 100%.

The Ratio of UAAL to Valuation Payroll is another relative index of condition. Actuarial unfunded liabilities represent debt, while active member payroll represents the system's capacity to collect contributions to pay toward debt. The lower the ratio is, the greater the financial strength and vice-versa.

The Short Condition Test is another way of looking at a system's progress under its funding program - based on the entry age accrued liability. In a short condition test, the plan's valuation assets are compared with:

1) Active member contributions on deposit;
2) The liabilities for future benefits to present retired lives;
3) The liabilities allocated to service already rendered by active members.

In a system that has been following the discipline of level percent of payroll financing, the liabilities for active member contributions on deposit (liability 1) and the liabilities for future benefits to present retired lives (liability 2) will be fully covered by valuation assets (except in rare circumstances). In addition, the liabilities assigned to service already rendered by active members (liability 3) will be partially covered by the remainder of the valuation assets. The larger the funded portion of liability 3, the stronger the condition of the system.

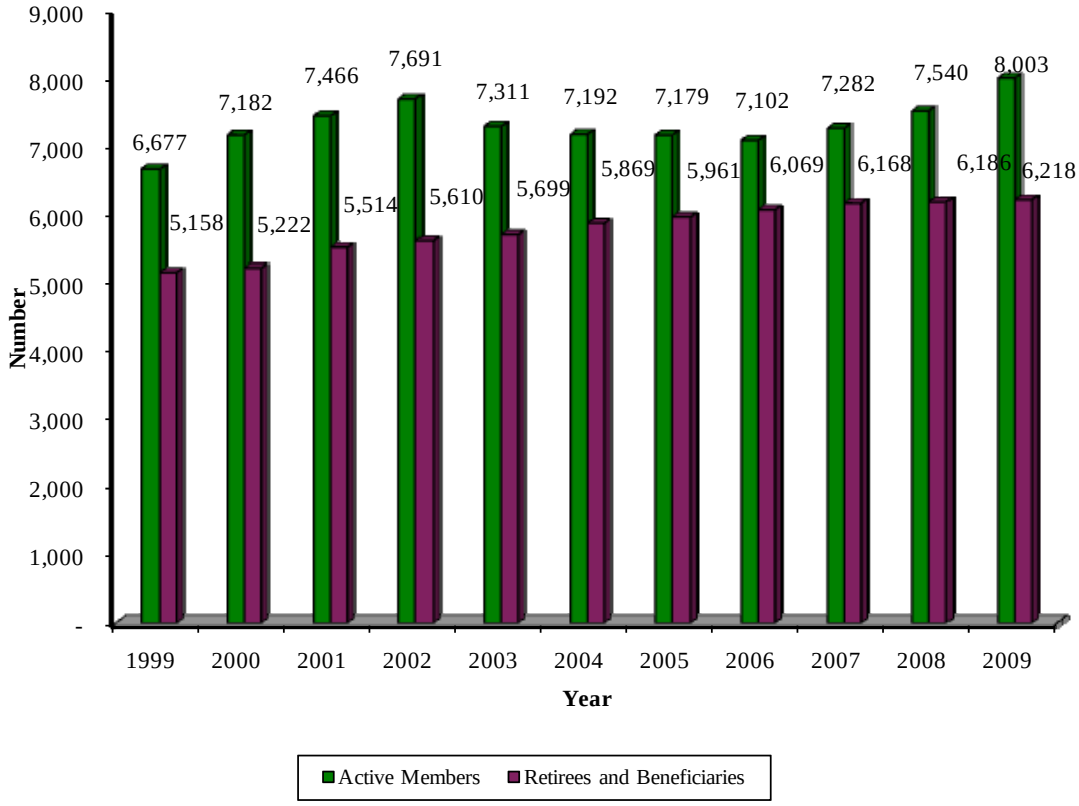
The schedule below illustrates the history of liabilities 1, 2 and 3.

SHORT CONDITION TEST
COMPARATIVE STATEMENT
($ AMOUNTS IN THOUSANDS)

	Entry Age Accrued Liability						
	(1)	(2)	(3)		Accrued Liability		
Valuation	Active Member	Retirants and	Active Members (Employer	Valuation	Covered by Assets		
Date	Contr.	Benef.	Financed Portion)	Assets	(1)	(2)	(3)
12/31/2000	$206,820	$1,431,788	$733,317	$2,308,030	100%	100%	91%
12/31/2001	200,222	1,631,424	718,910	2,462,548	100	100	88
12/31/2002	212,403	1,742,486	757,404	2,465,049	100	100	67
12/31/2003	229,828	1,841,065	722,895	2,531,746	100	100	64
12/31/2004	226,554	2,029,799	704,637	2,611,524	100	100	50
12/31/2005	233,032	2,132,638	700,185	2,693,686	100	100	47
12/31/2006	240,040	2,255,016	738,657	2,854,304	100	100	49
12/31/2007	247,305	2,363,997	771,956	2,968,794	100	100	46
12/31/2008	263,618	2,422,883	806,510	2,944,292	100	100	32
12/31/2009 &	**284,600**	**2,489,278**	**841,426**	**2,917,927**	**100**	**100**	**17**
12/31/2009 ^	**286,460**	**2,268,130**	**750,176**	**2,917,927**	**100**	**100**	**48**

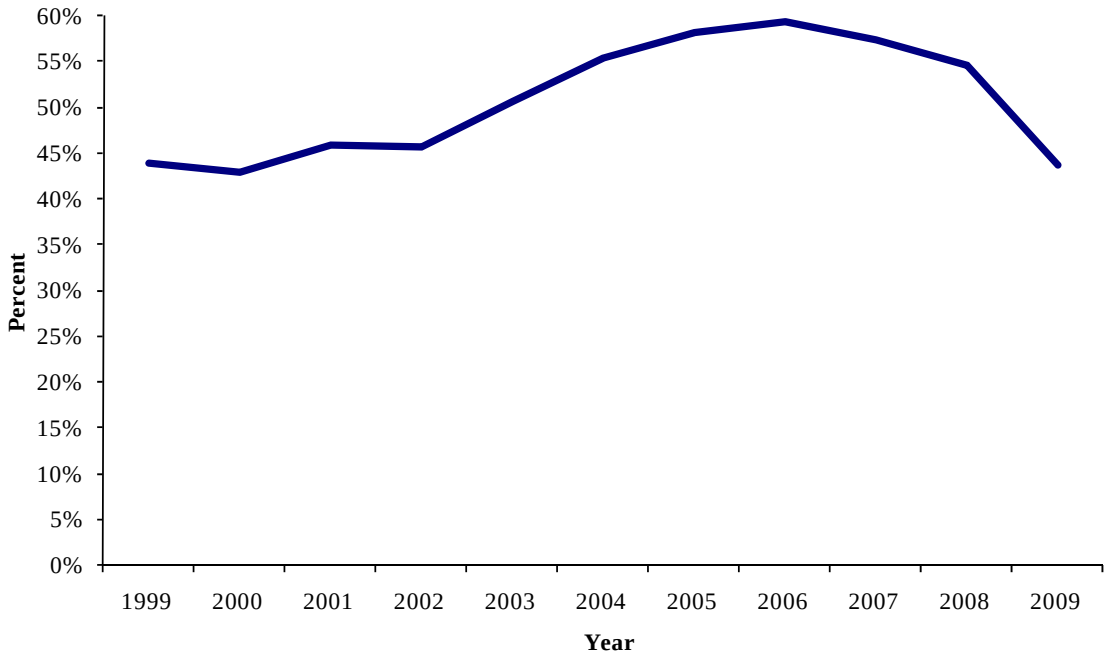
& Before changes in benefit provisions, methods, and assumptions.
^ After changes in benefit provisions, methods, and assumptions.

Active* and Retired Members and Beneficiaries



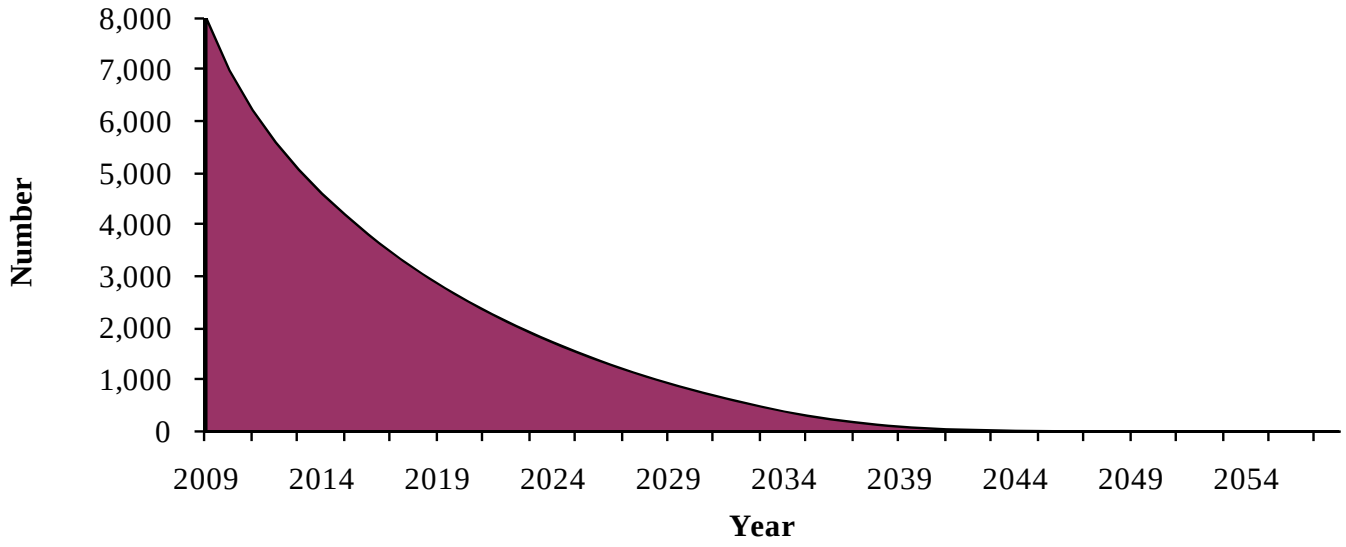
** Excludes part-time members who became members on 1/1/10.*

Benefits as a Percent of Payroll

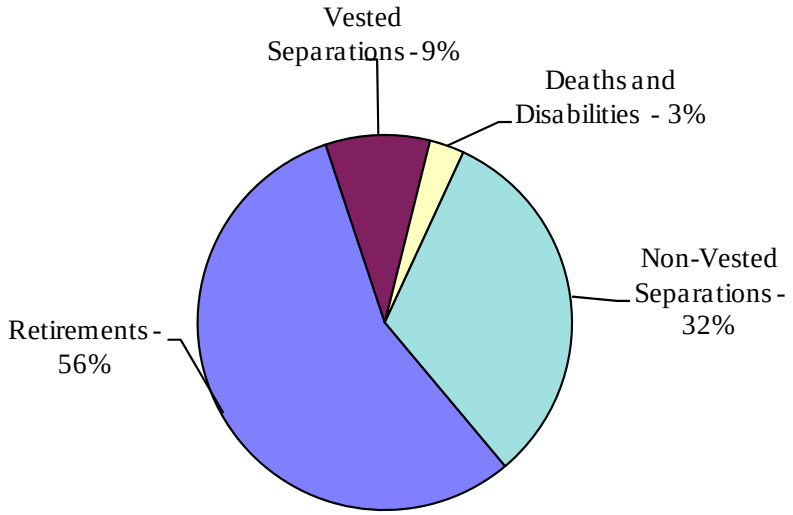


EXPECTED DEVELOPMENT OF PRESENT POPULATION BASED ON CURRENT PLAN ASSUMPTIONS

Closed Group Population Projection*



Expected Terminations from Active Employment for Current Active Members*



** Excludes part-time members who became members on 1/1/10.*

SECTION B

SUMMARY OF BENEFIT PROVISIONS AND VALUATION DATA

BRIEF SUMMARY OF BENEFIT PROVISIONS EVALUATED DECEMBER 31, 2009

Regular Retirement (no reduction factor for age):

Eligibility - Age 50 with 30 or more years of earned service or age 55 with 25 or more years of earned and outside service (must include 15 earned years), or age 65 with 5 years of earned service. For members with less than 5 years of earned service as of January 1, 2011: Rule of 85 with minimum age of 55 or age 65 with 5 years of service.

Type of Final Average Salary (FAS) - Highest 36 months of earned service or career average, whichever is greater. For members not eligible to retire as of January 1, 2011: highest 3 years subject to an 8% cap on each consecutive year (next highest salary). The cap for the first year is determined by using the fourth highest year.

Annual Amount - 2.5% of FAS times earned service. Minimum benefit is $15 times first 10 years of earned service plus $20 times earned service over 10 years plus an amount equal to the annuitized member balance, including any amount paid to purchase service.

Early Retirement:

Eligibility – Age 55 with 15 years of earned service but less than 25 years of service or any age with at least 25 years of earned service.

Annual Amount – For members not eligible to retire as of January 1, 2011: The regular retirement benefit will be reduced to be actuarially equivalent the normal form of payment (Option A). For members eligible to retire as of January 1, 2011: same as regular retirement but reduced by the following amount:

Age	Service	Reduction Amount*
Under 50	30 years	4% for each year prior to age 50
Under 50	25-30 years	Greater of: • 4% for each year of service below 30 years • 4% for each year below age 50
Age 50 - 55	25-30 years	Lesser of: • 4% for each year under age 55 • 4% for each year of service below 30 years
Over 55	15 years	Lesser of: • 4% for each year under age 65 • 4% for each year below 25 years

** Reduction amounts based on 6% rather than 4% for those hired (or re-hired, if contributions were refunded) on or after July 1, 2005.*

Deferred Retirement (vested benefit):

Eligibility - 5 years of service. Benefit begins when the member meets the age and service requirements for regular retirement.

Annual Amount - Computed as regular retirement but based upon service and final average salary at time of termination. In lieu of retirement benefits, members may receive 200% of accumulated contributions in a lump sum or an annuity equal to the actuarial equivalent of 200% of contributions plus minimum benefit. Members who become members after January 1, 2010 may receive 150% of accumulated contributions in a lump sum.

Disability Retirement:

Eligibility – 5 years of service.

Annual Amount – Same as Regular Retirement, but with service projected to the earlier of either 20 years of service or age 65.

Death Before Retirement:

Eligibility - No age or service requirements for a refund of member contributions.

Annual Amount – If the member is eligible for retirement, the beneficiary may receive a refund of accumulated contributions, survivor benefits, or the regular or early retirement benefit.

Survivor benefits are as follows and require that the member have a minimum of 5 years of earned service with the district immediately prior to death:

Type of Survivor	Survivor Benefits
Child	The greater of 10% of Final Average Salary for each child up to a limit of 30%; and $160 (pro-rated) for each child up to a limit of $480.
Spouse and child	The greater of the difference between the child benefit above and 30% (40% if 15 years of service plus 2% for each year of service beyond 25 years) of Final Average Salary; and $480.
Dependent Parent	The greater of 10% of Final Average Salary; and $240 per parent.
Spouse:	
• Less than 15 years of service	The lesser of 30% of Final Average Salary; and $480.
• 15 years of service or more	The greater of 30% of Final Average Salary, plus an additional 1% for each year of service over 15 years; and $480.

Spouse's benefit is payable at age 50 with at least 15 years of service or at age 60.

Member Contributions:

8.0% of annual compensation. Interest is credited at a rate of 3% per year compounded monthly.

Post-Retirement Increases: (ARAA)

The lesser of 2.00% or the increase in the Consumer Price Index (CPI-W) per year compounded. Effective on March 1st immediately following retirement. Members with a

retirement effective January 1, 2011 and after must receive benefits for 12 months to be eligible for an increase. In addition, members who retire with a reduced service retirement effective January 1, 2011 must reach age 60 or regular retirement conditions to be eligible for an increase. No regular annual increase will be granted March 1, 2010, although a an adjustment of two twelfths of 3.25% (0.5417%) was granted as of January 1, 2010 to existing retirees.

SERVICE

Earned Service is used in the determination of benefits and eligibility. It includes periods of employment (regular or casual) with the District, a Charter School or the System.

Outside and Non-qualified Service counts as service up to a total of 10 years of service in determining eligibility for full retirement with 25 years of service. If purchased, also counts as earned service.

OPTIONAL FORMS OF PAYMENT

Option A:	Single life annuity (SLA) with residual refund of member contributions.
Option B:	Installment refund annuity (SLA with reserve balance paid to beneficiary in monthly installments upon employee's death).
Option P2:	50% joint and survivor with pop-up and residual refund of member contributions.
Option P3:	100% joint and survivor with pop-up and residual refund of member contributions.

RETIREES AND BENEFICIARIES DECEMBER 31, 2009
TABULATED BY OPTIONAL FORM BEING PAID

	Optional Form							
	A	**B**	**C**	**D**	**E**	**P2**	**P3**	**TOTAL**
Superannuation and Early Retirement								
(Includes survivors of deceased employees)								
Males								
Number	238	114	1,212	133	151	17	42	1,907
Average Monthly Benefit	$2,753	$2,979	$3,489	$3,152	$3,028	$3,125	$2,470	$3,281
Females								
Number	910	494	1,193	737	350	48	84	3,816
Average Monthly Benefit	$2,894	$2,517	$2,932	$2,987	$2,657	$3,352	$2,758	$2,856
Total								
Number	**1,148**	**608**	**2,405**	**870**	**501**	**65**	**126**	**5,723**
Average Monthly Benefit	**$2,865**	**$2,604**	**$3,213**	**$3,012**	**$2,769**	**$3,293**	**$2,662**	**$2,998**
Regular Disability								
Males								
Number	59	7	29	4	7	0	2	108
Average Monthly Benefit	$1,535	$1,188	$1,779	$1,788	$1,675	$0	$613	$1,579
Females								
Number	142	22	56	22	14	2	2	260
Average Monthly Benefit	$1,734	$1,215	$1,443	$1,209	$1,306	$1,759	$2,079	$1,563
Total								
Number	**201**	**29**	**85**	**26**	**21**	**2**	**4**	**368**
Average Monthly Benefit	**$1,676**	**$1,208**	**$1,558**	**$1,298**	**$1,429**	**$1,759**	**$1,346**	**$1,568**
Survivors of Active Members and Disability Deaths								
Number								**127**
Average Monthly Benefit								**$1,035**
Grand Total								
Number								**6,218**
Average Monthly Benefit								**$2,873**

RETIREES AND BENEFICIARIES DECEMBER 31, 2009
TABULATED BY ATTAINED AGES

Attained Ages		Years Since Retirement 0-4	5-9	10-14	15-19	20-24	25-29	30+	Total
Under 45	Number	5	1	0	0	0	0	0	6
	Total Benefit	$ 49,981	$ 6,616	$ 0	$ 0	$ 0	$ 0	$ 0	$ 56,597
45-49	Number	28	3	3	0	0	0	0	34
	Total Benefit	$ 577,229	$ 58,302	$ 28,153	$ 0	$ 0	$ 0	$ 0	$ 663,684
50-54	Number	73	16	7	1	0	0	0	97
	Total Benefit	$ 2,501,112	$ 361,331	$ 65,614	$ 6,448	$ 0	$ 0	$ 0	$ 2,934,505
55-59	Number	302	115	23	2	4	0	0	446
	Total Benefit	$ 12,063,297	$ 4,936,030	$ 389,269	$ 28,189	$ 21,011	$ 0	$ 0	$ 17,437,796
60-64	Number	330	628	87	20	5	0	0	1,070
	Total Benefit	$ 11,747,098	$ 28,905,859	$ 2,893,737	$ 431,638	$ 49,308	$ 0	$ 0	$ 44,027,640
65-69	Number	326	321	361	90	1	0	1	1,100
	Total Benefit	$ 7,772,932	$ 13,469,398	$ 14,647,126	$ 2,879,003	$ 32,456	$ 0	$ 3,809	$ 38,804,724
70-74	Number	64	276	159	398	19	2	0	918
	Total Benefit	$ 1,486,170	$ 6,893,408	$ 5,678,479	$ 16,715,134	$ 479,613	$ 33,115	$ 0	$ 31,285,919
75-79	Number	13	32	163	384	238	2	0	832
	Total Benefit	$ 272,303	$ 689,065	$ 3,484,897	$ 14,964,400	$ 9,083,100	$ 19,077	$ 0	$ 28,512,842
80-84	Number	10	9	24	324	294	167	3	831
	Total Benefit	$ 275,053	$ 191,273	$ 557,299	$ 9,989,646	$ 10,594,919	$ 5,665,401	$ 44,913	$ 27,318,504
85-89	Number	1	2	2	41	298	211	39	594
	Total Benefit	$ 13,208	$ 67,629	$ 27,472	$ 1,146,378	$ 8,404,288	$ 7,062,147	$ 871,800	$ 17,592,922
90 & Over	Number	0	0	0	6	28	148	108	290
	Total Benefit	$ 0	$ 0	$ 0	$ 150,848	$ 534,327	$ 3,051,559	$ 1,995,230	$ 5,731,964
Totals	Number	1,152	1,403	829	1,266	887	530	151	6,218
	Total Benefit	$ 36,758,383	$ 55,578,911	$ 27,772,046	$ 46,311,684	$ 29,199,022	$ 15,831,299	$ 2,915,752	$ 214,367,097

Average Age = 72.2

Average Years Since Retirement 13.1
(excluding beneficiaries)

INACTIVE MEMBERS
ELIGIBLE FOR DEFERRED BENEFITS DECEMBER 31, 2009
TABULATED BY ATTAINED AGES

Attained Ages	No.	Monthly Allowances
25-29	4	$1,101
30-34	53	45,719
35-39	87	100,951
40-44	104	123,421
45-49	78	104,175
50-54	96	106,697
55-59	102	93,810
60-64	123	110,888
65+	1	1,293
Totals	**648**	**$688,055**

ACTIVE FULL-TIME MALE MEMBERS DECEMBER 31, 2009
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
Under 20	4							4	$ 124,516
20-24	69							69	2,316,940
25-29	195	17						212	8,474,222
30-34	195	67	13	5				280	13,053,944
35-39	126	104	47	11	1			289	15,468,852
40-44	98	74	56	28	11	3		270	15,874,516
45-49	100	44	54	50	45	10	1	304	18,427,382
50-54	52	56	50	38	71	27	10	304	18,313,275
55-59	76	39	41	38	43	22	10	269	15,781,541
60	6	9	9	6	6	6	1	43	2,525,343
61	10	9	4	6	8	2	1	40	2,398,021
62	12	8	9	5	8	4		46	2,820,160
63	2	7	8	4	4	3	2	30	1,985,261
64	3	6	7	4	2	1		23	1,642,804
65	6	4	1	5			1	17	989,797
66	3	1	2	3	1		1	11	656,970
67	1		2		2			5	282,734
68	1	1	2					4	247,482
69		2		2		1		5	240,503
70									
71			1	2				3	195,593
72	1							1	23,461
73				1				1	28,096
74	1		1					2	52,914
75		1						1	26,077
76									
77	1							1	59,410
78			1	1				2	45,572
79				1	1			2	57,176
Totals	**962**	**449**	**308**	**210**	**203**	**79**	**27**	**2,238**	**$122,112,562**

Group Averages

Age:	44.2 years
Service:	9.05 years
Annual Pay:	$54,563

ACTIVE FULL-TIME FEMALE MEMBERS DECEMBER 31, 2009
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
Under 20	1							1	$ 23,461
20-24	208							208	7,527,682
25-29	647	49	3					699	28,139,723
30-34	544	219	26					789	35,545,748
35-39	318	253	135	7	1			714	35,305,001
40-44	190	177	168	67	10			612	32,814,299
45-49	174	149	124	96	99	16		658	35,863,238
50-54	122	118	123	106	144	73	12	698	39,851,368
55-59	119	112	115	125	129	89	38	727	42,949,662
60	22	18	22	22	19	19	5	127	7,868,537
61	24	16	18	23	21	14	5	121	7,633,048
62	13	22	11	12	8	11	5	82	4,818,260
63	14	13	18	10	19	14	10	98	6,182,404
64	9	11	9	10	14	9	3	65	3,850,070
65	7	5	9	9	3	9	2	44	2,653,076
66	5	5	8	5	5	6	4	38	2,248,757
67		8	4	6	6	5	1	30	1,983,595
68	1	5	3	2	2	2	1	16	986,602
69	2	4		1	2	2	1	12	703,407
70	2	3		1	1		1	8	370,285
71							1	1	33,337
72	1		1			1	1	4	254,272
73		2		1		1		4	212,599
74	1					1	1	3	161,601
75									
76									
77	1		1	1			1	4	149,161
78									
79			1	1				2	72,102
Totals	**2,425**	**1,189**	**799**	**505**	**483**	**272**	**92**	**5,765**	**$298,201,295**

Group Averages

Age:	43.6 years
Service:	9.21 years
Annual Pay:	$51,726

TOTAL FULL-TIME ACTIVE MEMBERS DECEMBER 31, 2009
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
Under 20	5							5	$ 147,977
20-24	277							277	9,844,622
25-29	842	66	3					911	36,613,945
30-34	739	286	39	5				1069	48,599,692
35-39	444	357	182	18	2			1003	50,773,853
40-44	288	251	224	95	21	3		882	48,688,815
45-49	274	193	178	146	144	26	1	962	54,290,620
50-54	174	174	173	144	215	100	22	1002	58,164,643
55-59	195	151	156	163	172	111	48	996	58,731,203
60	28	27	31	28	25	25	6	170	10,393,880
61	34	25	22	29	29	16	6	161	10,031,069
62	25	30	20	17	16	15	5	128	7,638,420
63	16	20	26	14	23	17	12	128	8,167,665
64	12	17	16	14	16	10	3	88	5,492,874
65	13	9	10	14	3	9	3	61	3,642,873
66	8	6	10	8	6	6	5	49	2,905,727
67	1	8	6	6	8	5	1	35	2,266,329
68	2	6	5	2	2	2	1	20	1,234,084
69	2	6		3	2	3	1	17	943,910
70	2	3		1	1		1	8	370,285
71			1	2			1	4	228,930
72	2		1			1	1	5	277,733
73		2		2		1		5	240,695
74	2		1			1	1	5	214,515
75		1						1	26,077
76									
77	2		1	1			1	5	208,571
78			1	1				2	45,572
79			1	2	1			4	129,278
Totals	**3,387**	**1,638**	**1,107**	**715**	**686**	**351**	**119**	**8,003**	**$420,313,857**

Group Averages

Age:	43.8 years
Service:	9.2 years
Annual Pay:	$52,520

TOTAL PART-TIME ACTIVE MEMBERS DECEMBER 31, 2009
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
Under 20	14							14	$ 139,224
20-24	129							129	1,865,988
25-29	214							214	3,455,772
30-34	158							158	2,465,244
35-39	148							148	2,746,812
40-44	2663							2,663	45,256,980
45-49	187							187	3,649,908
50-54	193							193	3,634,956
55-59	136							136	2,623,908
60	46							46	968,196
61	33							33	606,840
62	35							35	698,628
63	25							25	376,128
64	19							19	319,044
65	20							20	406,236
66	22							22	388,704
67	11							11	181,848
68	18							18	300,504
69	7							7	119,976
70	11							11	212,940
71	10							10	189,840
72	7							7	81,972
73	5							5	62,196
74	3							3	77,628
75	3							3	58,116
76	5							5	115,536
77	5							5	81,216
78	5							5	71,448
79	14							14	279,864
Totals	**4,146**							**4,146**	**$71,435,652**

Group Averages

Age:	44.3 years
Service:	0.0 years
Annual Pay:	$17,230

Active Members December 31,

	2009	2008	2007	2006	2005
Active and Affiliate Members	12,216	7,560	7,303	7,130	7,212
Payroll (in thousands)*	$420,314	$388,652	$357,049	$328,609	$318,405
Average Salary*	$ 52,520	$ 51,545	$ 49,032	$ 46,270	$ 44,352
Average Age*	43.8	44.2	44.5	44.8	44.7
Average Service*	9.2	9.4	9.5	9.8	9.8

* *Excluding Affiliate Members.*

All Plan Members December 31, 2009

	Males	Females	Total
Active Full-Time Members			
Number	2,238	5,765	8,003
Annual Payroll	$ 122,112,563	$ 298,201,294	$ 420,313,857
Active Part-Time Members			
Number	1,085	3,061	4,146
Annual Payroll	$ 18,407,076	$ 53,028,576	$ 71,435,652
Affiliate Members	18	49	67
Deferred Retirements			
Number	176	472	648
Estimated Monthly Benefit	$ 216,326	$ 471,729	$ 688,055
Retired Members			
Number	1,953	3,897	5,850
Annual Benefit	$ 75,643,369	$ 131,801,334	$ 207,444,703
Disabled Participants			
Number	108	260	368
Annual Benefits	$ 2,046,891	$ 4,875,503	$ 6,922,394
Nonvested and Unelected Vested Terminations			
Terminated, Owed Refunds			690
Total Number			**19,772**

DEVELOPMENT OF FUNDING VALUE OF RETIREMENT SYSTEM ASSETS DECEMBER 31, 2009

Valuation Date December 31:	2008	2009	2010	2011	2012
A. Funding Value Beginning of Year	$ 2,968,794,036	$ 2,944,292,016			
B. Market Value End of Year	2,453,576,680	2,745,992,239			
C. Market Value Beginning of Year	3,006,971,321	2,453,576,680			
D. Non-Investment Net Cash Flow	252,631,163	(163,501,846)			
E. Investment Income					
E1. Market Total: B-C-D	(806,025,804)	455,917,405			
E2. Assumed Rate	8.50%	8.50%			
E3. Amount for Immediate Recognition	263,084,317	243,315,993			
E4. Amount for Phased-In Recognition	(1,069,110,121)	212,601,412			
F. Phased-In Recognition of Investment Income					
F1. Current Year: 0.25 x E4	(267,277,530)	53,150,353			
F2. First Prior Year	12,725,762	(172,055,620)	$ 53,150,353		
F3. Second Prior Year		12,725,762	(172,055,620)	$ 53,150,353	
F4. Third Prior Year			12,725,761	(172,055,619)	$ 53,150,353
F5. Total Recognized Investment Gain	(254,551,768)	(106,179,505)	(106,179,506)	(118,905,266)	53,150,353
G. Funding Value End of Year					
G1. Preliminary Funding Value End of Year: A+D+E3+F5	$ 3,229,957,748	$ 2,917,926,658			
G2. Upper Corridor Limit: 120% x B	$ 2,944,292,016	$ 3,295,190,687			
G3. Lower Corridor Limit: 80% x B	$ 1,962,861,344	$ 2,196,793,791			
G4. Actuarial Value End of Year	$ 2,944,292,016	$ 2,917,926,658			
H. Difference Between Market & Funding Value	(490,715,336)	(171,934,419)			
I. Recognized Rate of Return	**(9.0)%**	**4.8%**			
J. Market Rate of Return	(25.7)%	19.2%			
K. Ratio of Funding Value to Market Value	120%	106%			

The Funding Value of Assets recognizes 25% of the difference between Market Value and expected Funding Value each year. Expected Funding Value is equal to last year's Funding Value increased by contributions and assumed investment income and decreased by benefit payments. During periods when investment performance exceeds the assumed rate, Funding Value of Assets will tend to be less than Market Value. During periods when investment performance is less than the assumed rate, Funding Value of Assets will tend to be greater than Market Value.

SUMMARY OF
ACTUARIAL ASSETS, REVENUES AND EXPENDITURES

BALANCE SHEET

Valuation Assets		Reserves for	
Cash, receivables, accruals and other short-term assets	$ 776,553,555	Member contributions	$ 287,221,703
Stocks	1,049,788,262	Pensions and annuities	2,351,711,938
Bonds	760,835,706	Deferred retirement allowances	22,986,276
Other	158,814,716	Unrealized asset appreciation	84,072,322
Funding value adjustment	171,934,419	Funding value adjustment	171,934,419
Total Current Assets	$2,917,926,658	Total Applied Reserves	$2,917,926,658

REVENUES AND EXPENDITURES

	2009	2008
Balance - January 1	$2,944,292,016	$2,968,794,036
BOY Adjustments	0	0
Adjusted BOY Balance (A)	2,944,292,016	2,968,794,036
Revenues		
Member contributions	35,003,097	29,904,361
Employer contributions	15,841,465	434,811,169
Recognized investment income (I)	142,318,407	12,029,079
Total	193,162,969	476,744,609
Expenditures		
Benefit payments	214,346,408	212,084,367
Administrative expenses (E)	5,181,919	3,496,530
Total	219,528,327	215,580,897
Balance - December 31	2,917,926,658	3,229,957,748
EOY Adjustments	0	(285,665,732)
Adjusted EOY Balance (B)	$2,917,926,658	$2,944,292,016
Recognized rate of return: (I-E)/[½ x (A+B-I+E)]	4.8%*	-9.0%*

** Market value rate of return was 19.2% in 2009 and -25.7% in 2008.*

RECOMMENDED RESERVE TRANSFERS
DECEMBER 31, 2009

1.	**Reserve for Retired Service and Age - Basic**	
	a. Ledger Reserve as of December 31, 2009	$1,208,854,376
	b. Required reserve according to actuarial valuation	1,356,145,716
	c. Amount to be transferred to this reserve	147,291,340
2.	**Reserve for Retired Regular Disability - Basic**	
	a. Ledger Reserve as of December 31, 2009	$ 39,367,882
	b. Required reserve according to actuarial valuation	46,810,234
	c. Amount to be transferred to this reserve	7,442,352
3.	**Reserve for Survivor Benefits - Basic**	
	a. Ledger Reserve as of December 31, 2009	$ 7,766,214
	b. Required reserve according to actuarial valuation	8,567,419
	c. Amount to be transferred to this reserve	801,205
4.	**Reserve for Retired Service and Age - ARAA**	
	a. Ledger Reserve as of December 31, 2009	$ 1,015,160,036
	b. Required reserve according to actuarial valuation	821,576,500
	c. Amount to be transferred to this reserve	(193,583,536)
5.	**Reserve for Retired Regular Disability - ARAA**	
	a. Ledger Reserve as of December 31, 2009	$ 29,546,061
	b. Required reserve according to actuarial valuation	27,759,734
	c. Amount to be transferred to this reserve	(1,786,327)
6.	**Reserve for Survivor Benefits - ARAA**	
	a. Ledger Reserve as of December 31, 2009	$ 7,802,816
	b. Required reserve according to actuarial valuation	7,270,690
	c. Amount to be transferred to this reserve	(532,126)
7.	**Total Reserve Liability Transfers**	
	a. Ledger Reserve as of December 31, 2009	$2,308,497,385
	b. Required reserve according to actuarial valuation	2,268,130,293
	c. Amount to be transferred to this reserve	(40,367,092)

In order to maintain an exact balance between reserve accounts and retiree liabilities, as calculated in the December 31, 2009 valuation, the above transfers should be made.

SECTION C

SUMMARY OF VALUATION METHODS AND ASSUMPTIONS

ACTUARIAL COST METHODS

Normal Cost. Normal cost and the allocation of benefit values between service rendered before and after the valuation date was determined using an individual entry-age actuarial cost method having the following characteristics:

(i) the annual normal cost for each individual active member, payable from the date of employment to the date of retirement, is sufficient to accumulate the value of the member's benefit at the time of retirement;

(ii) each annual normal cost is a constant percentage of the member's year-by-year projected covered pay.

Financing of Unfunded Actuarial Accrued Liabilities (UAAL). Unfunded actuarial accrued liabilities (full funding credit of assets exceed liabilities) are amortized by level (principal & interest combined) percent-of-payroll contributions over a period of 30 future years from the contribution effective date. There is currently a 1.5 year lag between the valuation date and the computed employer contribution effective date. Employer contribution rates during this lag have been previously adopted by the Board. To determine the percent of payroll contribution needed to pay off the UAAL, the UAAL as of the valuation date is projected to the contribution effective date based on:

- valuation payroll;
- payroll projections to the appropriate employer fiscal year using the wage growth assumption;
- the employer contribution rates previously adopted by the Board;
- assumed interest; and
- a 30-year level percent of payroll amortization factor.

ACTUARIAL ASSUMPTIONS USED FOR THE VALUATION

The actuary calculates the contribution requirements and benefit values by applying actuarial assumptions to the benefit provisions and census data furnished, using the actuarial cost methods described on the previous page.

The principal areas of financial risk which require assumptions about future experiences are:

- long-term rates of investment return to be generated by system assets.
- patterns of pay increases to members.
- rates of mortality among members, retirees and beneficiaries.
- rates of separation (withdrawal) from active membership.
- rates of disability among active members.
- the age patterns of actual retirement.

In a valuation, the actuary calculates the monetary effect of each assumption for as long as each covered person survives - - - a period of time which can be as long as a century.

Actual experience of the Fund will not coincide exactly with assumed experience, regardless of the quality of the assumptions, or the skill of the actuary and the precision of the many calculations made. Each valuation provides a complete recalculation of assumed future experience and takes into account all past differences between assumed and actual experience. The result is a continual series of adjustments (usually small) to the computed contribution rate.

From time to time it is appropriate to modify one or more of the assumptions to reflect experience trends (but not random year-to-year fluctuations).

The rates of salary increase used for individual 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.

Sample	% Increase in Salary at Sample Ages						
	Merit and Seniority				Increase Next Year		
		Part-Time		Base		Part-Time	
Ages	Full-Time	Male	Female	(Economic)*	Full-Time	Male	Female
20	3.50%	6.20%	5.67%	4.50%	8.00%	10.70%	10.17%
25	3.50%	4.10%	3.75%	4.50%	8.00%	8.60%	8.25%
30	3.20%	2.95%	2.80%	4.50%	7.70%	7.45%	7.30%
35	2.76%	2.50%	2.05%	4.50%	7.26%	7.00%	6.55%
40	2.12%	1.95%	1.50%	4.50%	6.62%	6.45%	6.00%
45	1.34%	1.35%	0.85%	4.50%	5.84%	5.85%	5.35%
50	0.80%	0.80%	0.50%	4.50%	5.30%	5.30%	5.00%
55	0.42%	0.35%	0.10%	4.50%	4.92%	4.85%	4.60%
60	0.20%	0.00%	0.00%	4.50%	4.70%	4.50%	4.50%

** Includes 3.75% for price inflation and 0.75% for productivity increases.*

The payroll growth rate for financing unfunded actuarial accrued liabilities was assumed to be 4.5% per year.

The rate of net investment return was 8.00% a year, compounded annually. This assumption is used to make money payable at one point in time equal in value to a different amount of money payable at another point in time.

The assumed real return is the rate of return in excess of price inflation. Considering other assumptions used in the valuation, the 8.00% nominal rate translates to a net real return of 4.25% a year.

The mortality table used is shown below:

Sample Attained Ages	Value at Retirement of $1 Monthly Increasing 2.00% Annually After Retirement				Future Life Expectancy (years)			
	Healthy		Disabled		Healthy		Disabled	
	Men	Women	Men	Women	Men	Women	Men	Women
50	169.89	176.53	136.43	154.09	33.49	36.80	24.15	28.90
55	159.50	167.54	130.40	143.96	28.85	32.05	21.77	25.11
60	146.99	156.34	121.92	133.57	24.39	27.39	19.18	21.69
65	132.54	143.10	113.34	122.82	20.18	22.96	16.82	18.58
70	116.92	128.36	104.67	111.09	16.37	18.86	14.65	15.66
75	100.51	111.66	95.28	98.27	12.98	15.04	12.57	12.93

This assumption is used to measure the probabilities of each benefit payment being made after retirement.

The rates of retirement used to measure the probability of eligible members retiring during the next year were as follows:

Retirement Ages	Normal Retirement				Early Retirement			
	Full-Time		Part-Time		Full-Time		Part-Time	
	Men	Women	Men	Women	Men	Women	Men	Women
50	30%	30%	45%	45%	10%	5%	12%	18%
51	30%	30%	38%	32%	10%	5%	12%	14%
52	30%	30%	38%	32%	10%	6%	12%	13%
53	30%	30%	35%	27%	10%	7%	10%	10%
54	35%	35%	32%	27%	10%	8%	16%	18%
55	35%	35%	28%	30%	10%	8%	18%	18%
56	35%	25%	25%	20%	10%	9%	10%	13%
57	35%	25%	25%	22%	10%	10%	10%	11%
58	30%	25%	25%	22%	11%	10%	10%	11%
59	30%	25%	25%	22%	12%	10%	18%	20%
60	30%	20%	25%	22%	13%	11%	12%	14%
61	35%	20%	25%	22%	14%	12%	10%	10%
62	40%	30%	28%	25%	15%	13%	14%	12%
63	35%	20%	25%	22%	15%	14%	14%	12%
64	35%	30%	22%	18%	15%	15%	14%	12%
65	35%	35%	30%	28%				
66	30%	30%	20%	28%				
67	25%	25%	20%	23%				
68	25%	25%	20%	22%				
69	25%	25%	16%	22%				

Rates of separation from active membership were as shown below (rates do not apply to members eligible to retire and do not include separation on account of death or disability). This assumption measures the probabilities of members remaining in employment.

		% of Active Members Separating Within Next Year			
		Full-Time		Part-Time	
Sample Ages	Years of Service	Men	Women	Men	Women
ALL	0	23.00%	23.00%	39.00%	43.00%
	1	20.00%	20.00%	20.00%	22.00%
	2	16.00%	16.00%	15.00%	16.00%
	3	14.00%	14.00%	11.00%	13.00%
	4	12.00%	12.00%	10.00%	11.00%
25	5 & Over	7.36%	9.89%	10.46%	11.50%
30		6.09%	8.85%	6.32%	10.35%
35		5.12%	7.36%	4.60%	9.20%
40		4.43%	5.82%	4.60%	6.90%
45		3.91%	3.93%	4.60%	5.75%
50		3.39%	2.76%	4.60%	5.75%
55		3.11%	2.53%	4.60%	5.75%
60		2.88%	2.53%	4.60%	5.75%

Rates of disability among active members.

	% Becoming Disabled Within Next Year			
	Full-Time		Part-Time	
Sample Ages	Men	Women	Men	Women
20	0.00%	0.00%	0.01%	0.01%
25	0.06%	0.05%	0.01%	0.02%
30	0.06%	0.05%	0.01%	0.03%
35	0.07%	0.06%	0.02%	0.05%
40	0.10%	0.09%	0.04%	0.08%
45	0.17%	0.15%	0.08%	0.13%
50	0.31%	0.28%	0.14%	0.18%
55	0.56%	0.50%	0.21%	0.25%
60	1.19%	1.07%	0.30%	0.36%

MISCELLANEOUS AND TECHNICAL ASSUMPTIONS
DECEMBER 31, 2009

Marriage Assumption	80% of members are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses.
Pay Increase Timing	Eight months after valuation date.
Decrement Timing	Decrements of all types are assumed to occur at the middle of the year.
Eligibility Testing	Eligibility for benefits is determined based upon the age nearest birthday and exact fractional service.
Decrement Relativity	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
Decrement Operation	All decrements operate during the first 5 years of service.
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.
Normal Form of Benefit	Straight Life.
Option Factors	Option factors are based on 8.00% interest and a 50% unisex blend of male and female mortality and reflect the COLA of 2.00%
Service Accruals	It is assumed that members accrue one year of service credit per year.
Price Inflation	3.75% per year.
Assumed COLA Increases	0% in 2010; 2.0% per year, thereafter
Data	Annual salaries for the new part time members were based on the reported salary payable during the month of January multiplied by 12.

SECTION D

BASIC FINANCIAL OBJECTIVE AND OPERATION OF THE RETIREMENT SYSTEM

BASIC FINANCIAL OBJECTIVE AND OPERATION OF THE RETIREMENT SYSTEM

Benefit Promises Made Which Must Be Paid For. A retirement program is an orderly means of handing out, keeping track of, and financing contingent pension promises to a group of employees. As each member of the retirement program acquires a unit of service credit they are, in effect, handed an "IOU" which reads: "Your Retirement System promises to pay you one unit of retirement benefits, payments in cash commencing when you retire."

The principal related financial question is: When shall the money required to cover the "IOU" be contributed? This year, when the benefit of the member's service is received? Or, some future year when the "IOU" becomes a cash demand?

The financial objective of DPSRS relative to funding the benefits is to establish and receive contributions, expressed as percents of active member payroll, which will remain approximately level from year-to-year and will not have to be increased for future generations of taxpayers.

Translated into actuarial terminology, a level percent-of-payroll contribution objective means that the contribution rate must be at least:

> ***Normal Cost*** (the current value of benefits likely to be paid on account of members' service being rendered in the current year)
>
> . . . plus . . .
>
> ***Interest on the Unfunded Actuarial Accrued Liability*** (the difference between the actuarial accrued liability and current system assets).

If contributions to the retirement program are less than the preceding amount, the difference, ***plus investment earnings not realized thereon***, will have to be contributed at some later time, or, benefits will have to be reduced, to satisfy the fundamental fiscal equation under which all retirement programs must operate; that is:

$$\mathbf{B = C + I - E}$$

Benefit payments to any group of members and their beneficiaries cannot exceed the sum of:

Contributions received on behalf of the group

. . . plus . . .

Investment earnings on contributions received and not required for immediate payment of benefits

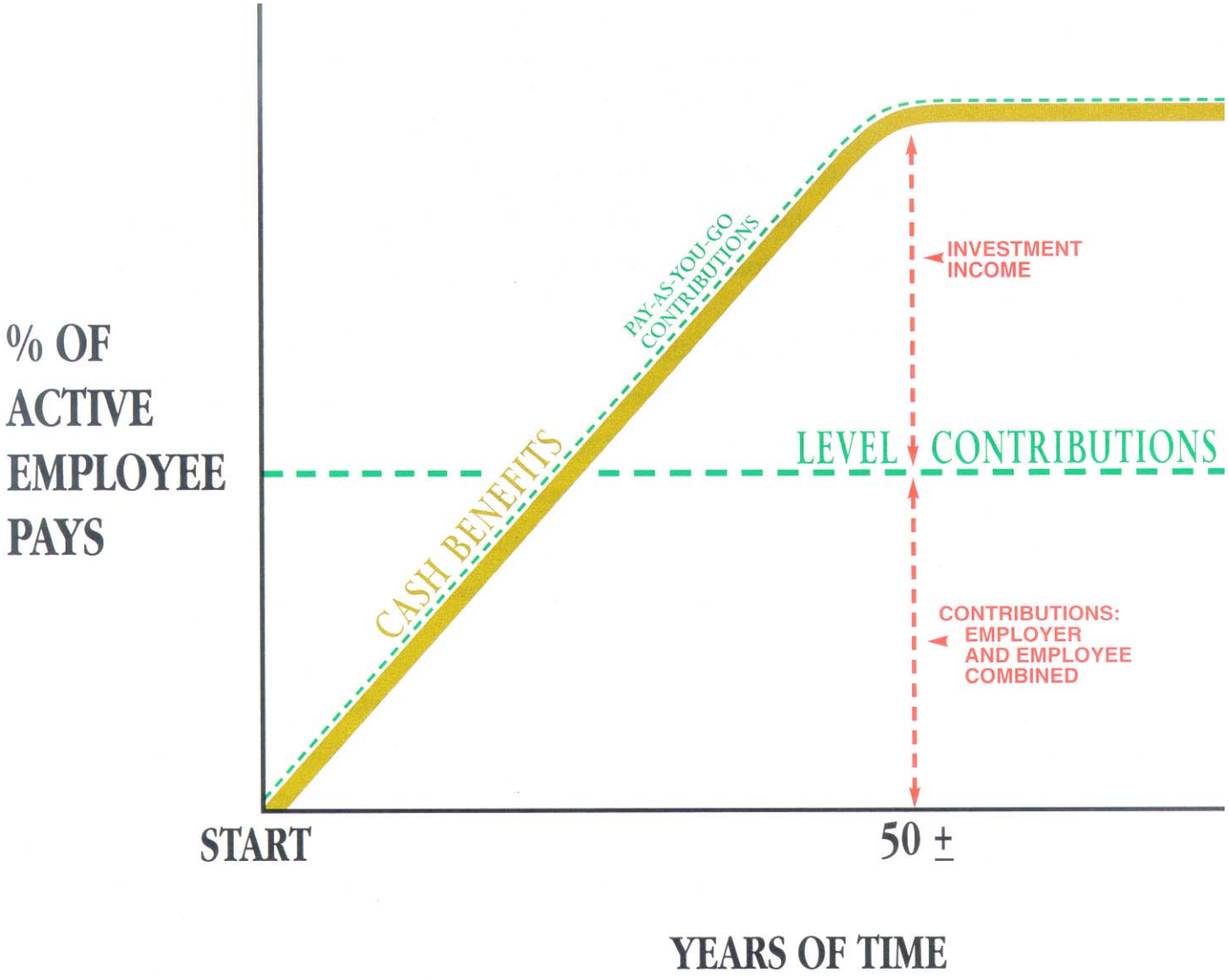
. . . minus . . .

Expenses incurred in operating the program.

There are retirement programs designed to defer the bulk of contributions far into the future. Lured by artificially low present contributions, the inevitable consequence is a relentlessly increasing contribution rate to a level greatly in excess of the level percent-of-payroll rate.

A by-product of the level percent-of-payroll contribution objective is the accumulation of invested assets for varying periods of time. Invested assets are a by-product of level percent-of-payroll contributions, not the objective. ***Investment income becomes the major contributor*** to the retirement program, and the amount is directly related to the amount of contributions and investment performance.

Computed Contribution Rate Needed To Finance Benefits. From a given schedule of benefits and from the data furnished him, the actuary calculates the contribution rate ***by means of an actuarial valuation*** - the technique of assigning monetary values to the risks assumed in operating a retirement program.



CASH BENEFITS LINE. This relentlessly increasing line is the fundamental reality of retirement plan financing. It happens each time a new benefit is added for future retirements (and happens regardless of the design for contributing for benefits).

LEVEL CONTRIBUTION LINE. Determining the level contribution line requires detailed assumptions concerning a variety of experiences in future decades, including:

Economic Risk Areas

- Rates of investment return
- Rates of pay increase
- Changes in active member group size

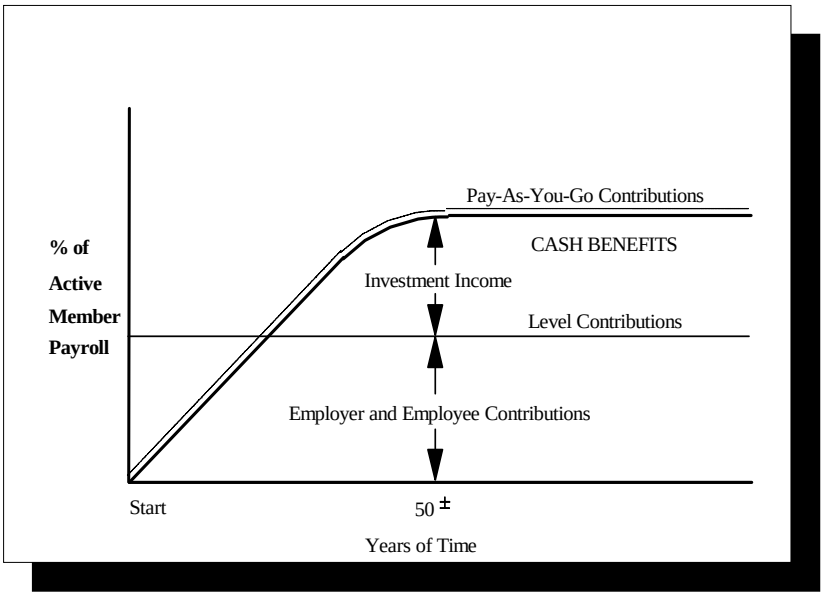
Non-Economic Risk Areas

- Ages at actual retirement
- Rates of mortality
- Rates of withdrawal of active members (turnover)
- Rates of disability

SELECTION OF ASSUMPTIONS USED IN ACTUARIAL VALUATIONS

Economic Assumptions

Investment return
Pay increases to individual employees:
  the portion for economic changes
Active member group size and
  total payroll growth



Demographic Assumptions

Actual ages at service retirement
Pay increases to individual members:
  the portion for merit & seniority
Disability while actively employed
Separations before retirement
Mortality after retirement
Mortality before retirement

RELATIONSHIP BETWEEN PLAN GOVERNING BODY AND THE ACTUARY

The actuary should have the primary responsibility for choosing the ***demographic*** assumptions used in the actuarial valuation, making use of specialized training and experience.

The actuary and other professionals can provide guidance concerning the choice of suitable economic assumptions, but the basis of the economic assumptions is the assumed rate of ***inflation***, a quantity which defies accurate prediction. Given an assumed rate of future inflation, it is very important that this rate be applied in a consistent manner in deriving the assumed rate of investment return, the economic portion of the assumption on pay increases to individual employees, and the assumed rate of growth of active member payroll. Consistent application of assumptions is an area in which the actuary has specialized training.

A sound procedure is that the actuary suggests reasonable alternatives for economic assumptions, followed by discussion involving the actuary, the Plan Governing Body, and other professionals, and the Plan Governing Body then makes a final choice from the various alternatives.

Actuarial Accrued Liability	The difference between (i) the actuarial present value of future plan benefits, and (ii) the actuarial present value of future normal cost. Sometimes referred to as "accrued liability" or "past service liability."
Accrued Service	The service credited under the plan which was rendered before the date of the actuarial valuation.
Actuarial Assumptions	Estimates of future plan experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.
Actuarial Cost Method	A mathematical budgeting procedure for allocating the dollar amount of the "actuarial present value of future plan benefits" between the actuarial present value of future normal cost and the actuarial accrued liability. Sometimes referred to as the "actuarial funding method."
Actuarial Equivalent	A single amount or series of amounts of equal value to another single amount or series of amounts, computed on the basis of the rate(s) of interest and mortality tables used by the plan.
Actuarial Present Value	The amount of funds presently required to provide a payment or series of payments in the future. It is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.
Amortization	Paying off an interest-bearing liability by means of periodic payments of interest and principal, as opposed to paying it off with a lump sum payment.
Experience Gain (Loss)	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, in accordance with the actuarial cost method being used.

Normal Cost	The annual cost assigned, under the actuarial funding method, to current and subsequent plan years. Sometimes referred to as "current service cost." Any payment toward the unfunded actuarial accrued liability is not part of the normal cost.
Plan Termination Liability	The actuarial present value of future plan benefits based on the assumption that there will be no further accruals for the future service and salary. The termination liability will generally be less than the liabilities computed on a "going-concern" basis and is not normally determined in a routine actuarial valuation.
Reserve Account	An account used to indicate that funds have been set aside for a specific purpose and that are not generally available for other uses.
Unfunded Actuarial Accrued Liability	The difference between the actuarial accrued liability and valuation assets. Sometimes referred to as "unfunded accrued liability."
Valuation Assets	The value of current plan assets recognized for valuation purposes. Generally related to market value in a manner which spreads unexpected gains or losses over a period of future years.

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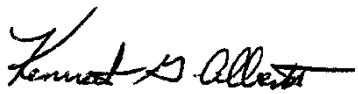
June 15, 2010

Mr. Karl Paulson
Manager of Strategic Innovation
Colorado PERA
1301 Pennsylvania St.
Denver, Colorado 80203

Dear Mr. Paulson:

Enclosed are fifty copies of the Annual Actuarial Valuation as of December 31, 2009 of the Denver Public Schools Retirement System Division of COPERA. We look forward to presenting the results to the Board next week.

Sincerely,



Kenneth G. Alberts

KGA:mrb
Enclosures

cc: Koren Holden
Norman L. Jones