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May 31, 2016

The Board of Trustees
Public Employees' Retirement Association of Colorado
1301 Pennsylvania Street
Denver, CO 80203-2386

Dear Trustees:

We are pleased to submit the results of the annual actuarial valuation of the Public Employees' Retirement Association of Colorado (PERA), prepared as of December 31, 2015.

The purpose of this report is to provide a summary of the funded status of PERA as of December 31, 2015, to calculate actuarially determined contribution rates based on the Board's Funding Policy, to evaluate the sufficiency of the current statutory contribution rates, and to provide accounting information under Governmental Accounting Standards Board Statements No. 43 and No. 45 (GASB 43 and 45). While not verifying the data at the source, the actuary performed tests for consistency and reasonability.

The results of the valuation indicate that the combined employer and member contribution rates are sufficient to fund the normal cost for all members and provide additional contributions to help finance both the PERA Health Care Trust Fund (PERA HCTF) and the DPS Health Care Trust Fund (DPS HCTF), each division's unfunded actuarial accrued liability and the Annual Increase Reserve (AIR) Fund. The resulting amortization periods for each division, with and without recognition of future increases to the Amortization Equalization Disbursement (AED) and the Supplemental Amortization Equalization Disbursement (SAED), are shown in the following table:

	Amortization Period	
	With Current AED & SAED	**With Future Increases to AED & SAED**
State Division	44 years	44 years
School Division	50 years	46 years
Local Government Division	28 years	28 years
Judicial Division	Infinite	Infinite
Denver Public Schools (DPS) Division	Infinite	Infinite
PERA Health Care Trust Fund (PERA HCTF)	35 years	35 years
DPS Health Care Trust Fund (DPS HCTF)	14 years	14 years

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The amortization periods shown on the prior page are based on the results of the December 31, 2015 actuarial valuation and are based on a snapshot measurement that assumes no change in either the normal cost rate or the Unfunded Actuarial Accrued Liability (UAAL) contribution rate. However, members who began membership after December 31, 2006 are covered by a different benefit structure with a lower normal cost rate, so, as members who began membership prior to January 1, 2007 leave covered employment and are replaced by members in the lower cost benefit structure, the total normal cost rate is expected to decline. As a result, the portion of the total statutory contribution rate available to pay off the UAAL is expected to increase each year in the future until all active members in the valuation are covered by the provisions in the most recent benefit tier. While this is expected to improve the System's financial health in future years, it is impossible to anticipate the long-term funding progress without performing an open group projection of future valuation results. Such projections are performed to assist the Board in evaluating the long-term funding of each division, but the projections are completed after the valuation report is issued.

The employer contribution rate, combined with anticipated future employee growth and service purchase transfers, is sufficient to eventually finance the PERA HCTF's and DPS HCTF's benefits in accordance with GASB 43 and 45.

Colorado statutes call for a "true-up" in 2020, and every five years following, with the expressed purpose of adjusting the total DPS contribution rate to ensure equalization of the ratio of unfunded actuarial accrued liability over payroll between the DPS and School Divisions at the end of the 30-year period beginning January 1, 2010.

The promised benefits of PERA are included in the actuarially determined contribution rates which are developed using the entry age normal cost method. Four-year smoothed market value of assets is used for actuarial valuation purposes. In accordance with the Funding Policy adopted by the Board of Trustees for pension benefits, the UAAL is being amortized by regular annual contributions as a level percentage of payroll within a closed 30 year period for the legacy UAAL as of December 31, 2014, and gains and losses in subsequent years are amortized within a closed 30 year period, on the assumption that payroll will increase by 3.90% annually and the amortization period will decrease by one each year until reaching 0 years. Please see Schedule D of this report for the amortization payment schedule of the legacy UAAL and all subsequent gains and losses. We believe the assumptions are reasonably related to the actual experience and to expectations of anticipated experience under the Fund and meet the parameters for the disclosures under GASB 43 and 45.

We have prepared the Schedule of Funding Progress and Trend Information shown in the Comprehensive Annual Financial Report, and all supporting schedules, including the Schedule of Active Member Data, the Solvency Test and the Analysis of Financial Experience. All Denver Public School Retirement System (DPSRS) historical information that references a valuation date prior to December 31, 2010 was prepared by DPSRS' actuarial firm.

Future actuarial results may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

The Table of Contents, which immediately follows, outlines the material contained in the report. The undersigned 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 herein.

Respectfully submitted,

Edward A. Macdonald, ASA, FCA, MAAA
President

Patrice A Beckham, FSA, FCA, EA, MAAA
Principal and Consulting Actuary

Edward J. Koebel, FSA, EA, MAAA
Principal and Consulting Actuary

Eric H. Gary, FSA, FCA, MAAA
Principal and Chief Health Actuary

Table of Contents

Section I – Summary of Principal Results

REPORT ON THE ACTUARIAL VALUATION OF
THE PUBLIC EMPLOYEES' RETIREMENT ASSOCIATION OF COLORADO
PREPARED AS OF DECEMBER 31, 2015

1. For convenience of reference, the principal results of the valuation and a comparison with the preceding year's results for State Division, School Division, Local Government Division, Judicial Division, Denver Public Schools (DPS) Division, the PERA Health Care Trust Fund and the DPS Health Care Trust Fund are summarized below:

SUMMARY OF PRINCIPAL RESULTS FOR STATE DIVISION
($ IN THOUSANDS)

VALUATION DATE	12/31/2015	12/31/2014
Number of Active Members		
Non-Troopers	54,450	54,471
Troopers	841	829
Total	55,291	55,300
Annual Reported Payroll		
Non-Troopers	$ 2,572,580	$ 2,499,957
Troopers	69,287	64,713
Total	$ 2,641,867	$ 2,564,670
Number of Retired Members and Survivors	36,992	35,937
Annual Retirement Benefits	$ 1,435,634	$ 1,370,821
Total Assets:		
Actuarial Value	$ 13,882,820	$ 13,523,488
Market Value	$ 13,391,398	$ 13,956,630
Actuarial Accrued Liability	$ 24,085,671	$ 23,408,321
Unfunded Actuarial Accrued Liability (UAAL)	$ 10,202,851	$ 9,884,833
Actuarial Value Funded Ratio	57.6%	57.8%
CONTRIBUTIONS FOR YEAR ENDING	**12/31/2017**	**12/31/2016**
Employer Contribution Rate:		
Total Normal Cost Rate	10.93%	11.01%
Less Member Contribution Rate	(8.05)%	(8.05)%
Employer Normal Cost Rate	2.88%	2.96%
UAAL Contribution Rate	19.83%	19.35%
Actuarially Determined Contribution	22.71%	22.31%
Reduction for AED and SAED	(10.00)%	(9.90)%
Total Employer Contribution Rate	12.71%	12.41%
Blended Remaining Amortization Period	29 years	30 years

Section I – Summary of Principal Results (continued)

SUMMARY OF PRINCIPAL RESULTS FOR SCHOOL DIVISION
($ IN THOUSANDS)

VALUATION DATE	12/31/2015	12/31/2014
Number of Active Members	120,239	119,618
Annual Reported Payroll	$ 4,235,290	$ 4,063,236
Number of Retired Members and Survivors	60,109	58,145
Annual Retirement Benefits	$ 2,163,980	$ 2,068,180
Assets:		
Actuarial Value	$ 22,871,661	$ 22,143,356
Market Value	$ 22,062,124	$ 22,846,249
Actuarial Accrued Liability	$ 37,677,153	$ 36,386,532
Unfunded Actuarial Accrued Liability (UAAL)	$ 14,805,492	$ 14,243,176
Actuarial Value Funded Ratio	60.7%	60.9%
CONTRIBUTIONS FOR YEAR ENDING	**12/31/2017**	**12/31/2016**
Employer Contribution Rate:		
Total Normal Cost Rate	12.20%	12.33%
Less Employee Contribution Rate	(8.00)%	(8.00)%
Employer Normal Cost Rate	4.20%	4.33%
UAAL Contribution Rate	18.34%	18.03%
Actuarially Determined Contribution	22.54%	22.36%
Reduction for AED and SAED	(9.96)%	(9.87)%
Total Employer Contribution Rate	12.58%	12.49%
Blended Remaining Amortization Period	29 years	30 years

SUMMARY OF PRINCIPAL RESULTS FOR LOCAL GOVERNMENT DIVISION
($ IN THOUSANDS)

VALUATION DATE	12/31/2015	12/31/2014
Number of Active Members	12,176	12,084
Annual Reported Payroll	$ 561,518	$ 540,468
Number of Retired Members and Survivors	6,777	6,466
Annual Retirement Benefits	$ 248,588	$ 233,399
Assets:		
Actuarial Value	$ 3,777,161	$ 3,629,400
Market Value	$ 3,639,914	$ 3,733,496
Actuarial Accrued Liability	$ 4,780,698	$ 4,610,967
Unfunded Actuarial Accrued Liability (UAAL)	$ 1,003,537	$ 981,567
Actuarial Value Funded Ratio	79.0%	78.7%
CONTRIBUTIONS FOR YEAR ENDING	**12/31/2017**	**12/31/2016**
Employer Contribution Rate:		
Total Normal Cost Rate	10.51%	10.60%
Less Employee Contribution Rate	(8.00)%	(8.00)%
Employer Normal Cost Rate	2.51%	2.60%
UAAL Contribution Rate	9.41%	9.38%
Actuarially Determined Contribution	11.92%	11.98%
Reduction for AED and SAED	(3.70)%	(3.70)%
Total Employer Contribution Rate	8.22%	8.28%
Blended Remaining Amortization Period	29 years	30 years

SUMMARY OF PRINCIPAL RESULTS FOR JUDICIAL DIVISION
($ IN THOUSANDS)

VALUATION DATE	12/31/2015	12/31/2014
Number of Active Members	334	334
Annual Reported Payroll	$ 46,870	$ 42,977
Number of Retired Members and Survivors	345	331
Annual Retirement Benefits	$ 21,586	$ 19,946
Assets:		
Actuarial Value	$ 286,891	$ 270,866
Market Value	$ 276,563	$ 278,860
Actuarial Accrued Liability	$ 401,966	$ 371,253
Unfunded Actuarial Accrued Liability (UAAL)	$ 115,075	$ 100,387
Actuarial Value Funded Ratio	71.4%	73.0%
CONTRIBUTIONS FOR YEAR ENDING	**12/31/2017**	**12/31/2016**
Employer Contribution Rate:		
Total Normal Cost Rate	17.55%	17.93%
Less Employee Contribution Rate	(8.00)%	(8.00)%
Employer Normal Cost Rate	9.55%	9.93%
UAAL Contribution Rate	12.99%	12.14%
Actuarially Determined Contribution	22.54%	22.07%
Reduction for AED and SAED	(3.70)%	(3.70)%
Total Employer Contribution Rate	18.84%	18.37%
Blended Remaining Amortization Period	29 years	30 years

SUMMARY OF PRINCIPAL RESULTS FOR DENVER PUBLIC SCHOOLS DIVISION
($ IN THOUSANDS)

VALUATION DATE	12/31/2015	12/31/2014
Number of Active Members		
DPS Benefit Structure	4,037	4,580
PERA Benefit Structure	11,892	10,834
Total	15,929	15,414
Annual Reported Payroll		
DPS Benefit Structure	$ 237,724	$ 261,951
PERA Benefit Structure	$ 383,391	$ 322,368
Total	$ 621,115	$ 584,319
Number of Retired Members and Survivors	6,812	6,698
Annual Retirement Benefits	$ 257,832	$ 250,309
Assets:		
Actuarial Value	$ 3,207,327	$ 3,151,456
Market Value	$ 3,094,339	$ 3,254,064
Actuarial Accrued Liability	$ 3,905,240	$ 3,816,093
Unfunded Actuarial Accrued Liability (UAAL)	$ 697,913	$ 664,637
Actuarial Value Funded Ratio	82.1%	82.6%
CONTRIBUTIONS FOR YEAR ENDING	**12/31/2017**	**12/31/2016**
Employer Contribution Rate:		
Total Normal Cost Rate	12.40%	12.63%
Less Employee Contribution Rate	(8.00)%	(8.00)%
Employer Normal Cost Rate	4.40%	4.63%
UAAL Contribution Rate	5.88%	5.83%
Actuarially Determined Contribution	10.28%	10.46%
Reduction for AED and SAED	(9.96)%	(9.87)%
Total Employer Contribution Rate	0.32%	0.59%
Blended Remaining Amortization Period	29 years	30 years

SUMMARY OF PRINCIPAL RESULTS FOR PERA HEALTH CARE TRUST FUND
($ IN THOUSANDS)

VALUATION DATE	12/31/2015	12/31/2014
Number of Active Members	188,040	187,336
Annual Reported Payroll	$7,485,545	$7,211,351
Number of Retired Members and Survivors	55,092	54,076
Assets:		
Actuarial Value	$285,588	$297,377
Market Value	$276,505	$309,638
Actuarial Accrued Liability	$1,556,269	$1,534,461
Unfunded Actuarial Accrued Liability (UAAL)	$1,270,681	$1,237,084
Actuarial Value Funded Ratio	18.4%	19.4%
CONTRIBUTIONS FOR YEAR ENDING	**12/31/2017**	**12/31/2016**
Employer Contribution Rate:		
Normal Cost Rate	0.21%	0.21%
UAAL Contribution Rate	0.87%	0.88%
Annual Required Contribution (ARC)	1.08%	1.09%
Amortization Period	30 years	30 years

Section I – Summary of Principal Results (continued)

SUMMARY OF PRINCIPAL RESULTS FOR DPS HEALTH CARE TRUST FUND
($ IN THOUSANDS)

VALUATION DATE	12/31/2015	12/31/2014
Number of Active Members	15,929	15,414
Annual Reported Payroll	$621,115	$584,319
Number of Retired Members and Survivors	3,930	3,962
Assets:		
Actuarial Value	$17,557	$16,502
Market Value	$16,936	$17,021
Actuarial Accrued Liability	$74,897	$76,026
Unfunded Actuarial Accrued Liability (UAAL)	$57,340	$59,524
Actuarial Value Funded Ratio	23.4%	21.7%
CONTRIBUTIONS FOR YEAR ENDING	**12/31/2017**	**12/31/2016**
Employer Contribution Rate:		
Normal Cost Rate	0.21%	0.23%
UAAL Contribution Rate	0.47%	0.52%
Annual Required Contribution (ARC)	0.68%	0.75%
Amortization Period	30 years	30 years

2. Comments on the valuation results as of December 31, 2015 are given in Section IV and further discussion of the contribution levels is set out in Section V.

3. The valuation takes into account the effect of amendments to PERA and DPS benefit structures through the valuation date. The Main Provisions of PERA and DPS, as summarized in Schedule G, were taken into account in the current valuation. There were no changes since the previous valuation.

4. Schedule E of this report outlines the full set of actuarial assumptions and methods used in the current valuation. The following changes have been made to certain health care methods and assumptions since the previous valuation:

   - Method Change
     - Rates of morbidity to model the growth in assumed claims as a PERACare enrollee ages have been added to the process used to project per capita health care costs of those PERACare enrollees under the PERA Benefit Structure who are age 65 and older and are not eligible for premium-free Medicare Part A benefits.
   - Assumption Changes
     - The percentage of PERACare enrollees who will become age 65 and older and are assumed to not qualify for premium-free Medicare Part A coverage have been revised to more closely reflect actual experience.
     - Initial per capita health care costs for those PERACare enrollees under the PERA Benefit Structure who are age 65 and older and are not eligible for premium-free Medicare Part A benefits have been updated to reflect the change in costs for the 2016 plan year.
     - The assumed rates of inflation for health care costs for Medicare Part A premiums have been revised to reflect the current expectation of future increases.

5. A complete breakdown of the amortization payments of the Unfunded Actuarial Accrued Liability (UAAL) is provided in Schedule D. This schedule is based on the Funding Policy adopted by the Board of Trustees.

6. On a Market Value of Assets basis, the Plan's investment return for 2015 was 1.54%, resulting in an investment loss when compared to the Plan's assumed investment return of 7.50%. However, as the Plan recognizes 25% of each year's investment gains or losses, only a portion of this investment loss will be recognized in the development of the December 31, 2015 Actuarial Value of Assets (AVA), along with the amounts deferred from the prior three years. As the investment gains and losses to

be recognized in the December 31, 2015 AVA were, in aggregate, positive, the investment return on an AVA basis was actually 1.10% higher than the assumed investment return of 7.50%, or 8.60%. Schedule B shows the development of the Actuarial Value of Assets. The following table shows the reduction in the Unfunded Actuarial Accrued Liability (UAAL) as a result of the AVA return being higher than the assumed rate of 7.50%:

Group	Gain in UAAL ($ in millions)
State Division	$138.0
School Division	$215.6
Local Government Division	$28.6
Judicial Division	$2.3
DPS Division	$33.5
Total Pension Divisions	$418.0
PERA HCTF	$5.3
DPS HCTF	$0.2
Total HCTFs	$5.5

7. The net demographic experience for all divisions was an actuarial loss. The main causes of the actuarial losses were retirement and withdrawal experience and new members. These losses were offset by small gains on salary increases, which were lower than expected for all divisions except Judicial. Please refer to pages 40 and 41 of this report for a complete breakdown of actuarial gains and losses by division.

8. Actual contributions during the fiscal year ending December 31, 2015 to fund pension benefits were less than the Actuarially Determined Contribution (ADC), resulting in an increase to the UAAL. Based upon the valuation results, the total increase in the December 31, 2015 pension UAAL due to contributions, in aggregate, being less than the ADC, in aggregate, was $380.9 million. The PERA HCTF received payroll contributions below the Annual Required Contribution (ARC), however, members' purchased service transfers made-up the difference. The DPS HCTF contributions continue to exceed the ARC, resulting in a decrease to the expected UAAL.

9. Actual employer contributions to the DPS Division are reduced by an amount equal to the principal payments plus interest necessary each year to finance the Pension Certificates of Participation (PCOPs) issued in 1997 and 2008 and refinanced during 2011, 2012 and 2013. The amount of the

credit for the 2017 fiscal year is 15.32% of salary. This credit is expected to decline as a percentage of active member payroll, as currently structured, resulting in an expected amortization period below 30 years. Colorado statutes call for a "true-up" in 2020, and every five years following, with the expressed purpose of adjusting the total DPS Contribution rate to ensure equalization of the ratio of unfunded actuarial accrued liability over payroll between the DPS and School Divisions at the end of the 30-year period beginning January 1, 2010.

10. For benefit recipients of the PERA Benefit Structure with a membership date after December 31, 2006, the liabilities associated with future post-retirement benefit increases is assumed to be limited to the market value of the Annual Increase Reserve (AIR), as these future post-retirement benefit increases are granted only to the extent affordable in accordance with Colorado Statutes. This assumption was adopted as of the December 31, 2007 actuarial funding valuation in recognition of annual post-retirement benefit increase provisions enacted in 2006. As such, the assets and liabilities associated with post-retirement benefit increases financed by the AIR are excluded from the assets and liabilities presented in this report.

Section II – Membership Data

1. The membership data used as the basis for the valuation were furnished by PERA. The following table shows the number of active members and their annual Reported payroll as of December 31, 2015 on the basis of which the valuation was prepared.

THE NUMBER AND ANNUAL REPORTED PAYROLL OF ACTIVE MEMBERS AS OF DECEMBER 31, 2015 ($ IN THOUSANDS)

GROUP	NUMBER	ANNUAL REPORTED PAYROLL
State Division	55,291	$ 2,641,867
School Division	120,239	4,235,290
Local Government Division	12,176	561,518
Judicial Division	334	46,870
Denver Public Schools Division	15,929	621,115
Total	203,969	$ 8,106,660

2. The following table shows a six-year history of active member valuation data.

SCHEDULE OF TOTAL ACTIVE MEMBER VALUATION DATA

VALUATION DATE	NUMBER	ANNUAL REPORTED PAYROLL ($ IN THOUSANDS)	AVERAGE ANNUAL REPORTED PAYROLL	% CHANGE IN AVERAGE PAYROLL
12/31/2015	203,969	$ 8,106,660	$ 39,745	3.37%
12/31/2014	202,750	7,795,670	38,450	2.21%
12/31/2013	200,183	7,530,220	37,617	1.54%
12/31/2012	196,435	7,277,585	37,048	(0.86)%
12/31/2011	199,741	7,464,242	37,370	0.12%
12/31/2010	201,095	7,506,193	37,327	0.72%

Section II – Membership Data (continued)

3. The following table shows the number and annual retirement benefits payable to retired members and survivors on the rolls of PERA as of the valuation date.

THE NUMBER AND ANNUAL RETIREMENT BENEFITS
OF RETIRED MEMBERS AND SURVIVORS OF DECEASED MEMBERS
ON THE ROLLS AS OF DECEMBER 31, 2015
($ IN THOUSANDS)

	GROUP					
TYPE OF RETIREMENT	STATE DIVISION	SCHOOL DIVISION	LOCAL GOVERNMENT DIVISION	JUDICIAL DIVISION	DENVER PUBLIC SCHOOLS DIVISION	TOTAL
Service:						
Number	32,594	55,747	5,908	311	6,317	100,877
Annual Benefits	$1,332,649	$2,076,855	$228,693	$20,230	$247,144	$3,905,571
Avg. Annual Benefits	$40.886	$37.255	$38.709	$65.048	$39.124	$38.716
Avg. Age	71.4	70.8	68.8	74.6	74.2	71.1
Disability:						
Number	3,383	3,108	689	19	350	7,549
Annual Benefits	$82,276	$67,687	$16,394	$ 941	$7,963	$175,261
Avg. Annual Benefits	$24.320	$21.778	$23.794	$49.526	$22.751	$23.216
Avg. Age	69.4	69.2	67.1	71.5	69.1	69.1
Survivors*:						
Number	1,015	1,254	180	15	145	2,609
Annual Benefits	$20,709	$19,438	$3,501	$ 415	$2,725	$46,788
Avg. Annual Benefits	$20.403	$15.501	$19.450	$27.667	$18.793	$17.933
Avg. Age	59.2	59.3	57.8	72.3	66.6	59.6
Total:						
Number	36,992	60,109	6,777	345	6,812	111,035
Annual Benefits	$1,435,634	$2,163,980	$248,588	$21,586	$257,832	$4,127,620
Avg. Annual Benefits	$38.809	$36.001	$36.681	$62.568	$37.850	$37.174
Avg. Age	70.9	70.5	68.3	74.3	73.8	70.7

* Includes deferred survivors

4. Tables in Schedule H show the distribution by age and service of the number and total annual compensation of active members for each division and the distribution by age of the number and total annual benefit of retired members, beneficiaries and deferred vested for each division included in the valuation.

Section III – Assets

1. Schedule C shows the additions and deductions to PERA's assets for the year preceding the valuation date and a reconciliation of the fund balances at market value. As of December 31, 2015, the market value of assets for each division is shown below:

COMPARISON OF MARKET VALUE OF ASSETS AT
DECEMBER 31, 2015 AND DECEMBER 31, 2014
($ IN THOUSANDS)

GROUP	DECEMBER 31, 2015 MARKET VALUE	DECEMBER 31, 2014 MARKET VALUE
State Division	$ 13,391,398	$ 13,956,630
School Division	22,062,124	22,846,249
Local Government Division	3,639,914	3,733,496
Judicial Division	276,563	278,860
Denver Public Schools Division	3,094,339	3,254,064
PERA Health Care Trust Fund	276,505	309,638
DPS Health Care Trust Fund	16,936	17,021
Total Market Value of Assets	$ 42,757,779	$ 44,395,958

2. The four-year market related actuarial value of assets used for the current valuation was $44,329,005,152. Schedule B shows the development of the actuarial value of assets as of December 31, 2015. The following table shows the actuarial value of assets for each division.

COMPARISON OF ACTUARIAL VALUE OF ASSETS AT
DECEMBER 31, 2015 AND DECEMBER 31, 2014
($ IN THOUSANDS)

GROUP	DECEMBER 31, 2015 ACTUARIAL VALUE	DECEMBER 31, 2014 ACTUARIAL VALUE
State Division	$ 13,882,820	$ 13,523,488
School Division	22,871,661	22,143,356
Local Government Division	3,777,161	3,629,400
Judicial Division	286,891	270,866
Denver Public Schools	3,207,327	3,151,456
PERA Health Care Trust Fund	285,588	297,377
DPS Health Care Trust Fund	17,557	16,502
Total Actuarial Value of Assets	$ 44,329,005	$ 43,032,445

Section III – Assets (continued)

3. The estimated dollar-weighted historical returns for market value of assets and actuarial value of assets for the last six years, as calculated by the actuaries, are as follows:

YEAR ENDING	MARKET VALUE	ACTUARIAL VALUE
December 31, 2015	1.54%	8.60%
December 31, 2014	5.74%	9.04%
December 31, 2013	15.57%	11.09%
December 31, 2012	12.98%	10.94%
December 31, 2011	1.91%	(0.33)%
December 31, 2010	13.84%	0.94%

State Division

1. The total valuation balance sheet on account of benefits shows that the State Division has total prospective benefit liabilities of $26,408,804,588, of which $15,889,641,504 is for the prospective benefits payable on account of present retired members and survivors of deceased members, $580,728,811 is for the prospective benefits payable on account of present inactive members, and $9,938,434,273 is for the prospective benefits payable on account of present active members. Against these prospective benefit liabilities the State Division has a total present actuarial value of assets of $13,882,819,694 as of December 31, 2015. The difference of $12,525,984,894 between the total prospective liabilities and the total present actuarial value of assets represents the present value of contributions to be made in the future on account of benefits. Of this amount, $1,675,836,960 is the present value of future contributions expected to be made by members (at the rate of 8.0% of salary for non-state troopers and 10.0% of salary for state troopers), and the balance of $10,850,147,934 represents the present value of future contributions payable by the employers.

2. The employers' contributions to the State Division on account of benefits consist of three amounts set by statute. The basic amount is 9.13% of salary for non-state troopers and 11.83% of salary for state troopers (after reduction for the PERA Health Care Trust Fund Contribution of 1.02% of salary). For members of the PERA Benefit Structure hired on or after January 1, 2007, an allocation of the statutory rates of 1.00% of salary is made each year to pre-fund the Annual Increase Reserve which provides post-retirement increases for these members in retirement. In addition, employers will make Amortization Equalization Disbursement (AED) and Supplemental Amortization Equalization Disbursement (SAED) contributions in the future at the following rates:

Year	AED	SAED
2015	4.20%	4.00%
2016	4.60	4.50
2017 and later	5.00	5.00

State Division (continued)

3. The valuation indicates an employer normal cost rate of 2.88% of salary is required to provide the benefits for the State Division. After adjusting for administrative expenses, prospective employer normal costs at this rate have a present value of $647,296,505. When this amount is subtracted from $10,850,147,934, which is the present value of the total future contributions to be made by the employers, there remains $10,202,851,429 as the amount of future actuarial accrued liability contributions.

4. After recognizing the required employer normal cost rates, the remaining basic contribution amounts to 15.87% of salary. Contributions at this level will amortize the unfunded actuarial accrued liability of $10,202,851,429 over 44 years, assuming the aggregate payroll of the State Division increases by 3.90% each year.

5. Effective July 1, 2005, Colorado PERA began receiving employer contributions on compensation paid to PERA retirees who are working at PERA affiliated employers. The employer rate is the total rate within the division, including both AED and SAED. Effective January 1, 2011, Colorado PERA began receiving employee contributions on compensation paid to PERA retirees who are working at PERA affiliated employers. The working retiree does not accrue an additional benefit and is not eligible for a refund of these contributions.

School Division

1. The total valuation balance sheet on account of benefits shows that the School Division has total prospective benefit liabilities of $42,215,018,769, of which $24,224,106,069 is for the prospective benefits payable on account of present retired members and survivors of deceased members, $909,061,614 is for the prospective benefits payable on account of present inactive members, and $17,081,851,086 is for the prospective benefits payable on account of present active members. Against these prospective benefit liabilities the School Division has a total present actuarial value of assets of $22,871,661,446 as of December 31, 2015. The difference of $19,343,357,323 between the total prospective liabilities and the total present actuarial value of assets represents the present value of contributions to be made in the future on account of benefits. Of this amount, $2,962,084,645 is the present value of future contributions expected to be made by members (at the rate of 8.0% of salary), and the balance of $16,381,272,678 represents the present value of future contributions payable by the employers.

2. The employers' contributions to the School Division on account of benefits consist of three amounts set by statute. The basic amount is 9.13% of salary (after reduction for the PERA Health Care Trust Fund Contribution of 1.02% of salary). For members of the PERA Benefit Structure hired on or after January 1, 2007, an allocation of the statutory rates of 1.00% of salary is made each year to pre-fund the Annual Increase Reserve which provides post-retirement increases for these members in retirement. In addition, employers will make Amortization Equalization Disbursement (AED) and Supplemental Amortization Equalization Disbursement (SAED) contributions in the future at the following rates:

Year	AED	SAED
2015	4.20%	4.00%
2016	4.50	4.50
2017	4.50	5.00
2018 and later	4.50	5.50

School Division (continued)

3. The valuation indicates an employer normal cost rate of 4.20% of salary is required to provide the benefits for the School Division. After adjusting for administrative expenses, prospective employer normal costs at this rate have a present value of $1,575,780,549. When this amount is subtracted from $16,381,272,678, which is the present value of the total future contributions to be made by the employers, there remains $14,805,492,129 as the amount of future actuarial accrued liability contributions.

4. After recognizing the required employer normal cost rates, the remaining basic contribution amounts to 14.04% of salary. Contributions at this level will amortize the unfunded actuarial accrued liability of $14,805,492,129 over 50 years, assuming the aggregate payroll of the School Division increases by 3.90% each year. After recognizing the value of future increases in SAED contributions, the amortization period is reduced to 46 years.

5. Effective July 1, 2005, Colorado PERA began receiving employer contributions on compensation paid to PERA retirees who are working at PERA affiliated employers. The employer rate is the total rate within the division, including both AED and SAED. Effective January 1, 2011, Colorado PERA began receiving employee contributions on compensation paid to PERA retirees who are working at PERA affiliated employers. The working retiree does not accrue an additional benefit and is not eligible for a refund of these contributions.

Local Government Division

1. The total valuation balance sheet on account of benefits shows that the Local Government Division has total prospective benefit liabilities of $5,244,809,081, of which $2,984,626,040 is for the prospective benefits payable on account of present retired members and survivors of deceased members, $290,466,686 is for the prospective benefits payable on account of present inactive members, and $1,969,716,355 is for the prospective benefits payable on account of present active members. Against these prospective benefit liabilities the Local Government Division has a total present actuarial value of assets of $3,777,160,876 as of December 31, 2015. The difference of $1,467,648,205 between the total prospective liabilities and the total present actuarial value of assets represents the present value of contributions to be made in the future on account of benefits. Of this amount, $345,005,132 is the present value of future contributions expected to be made by members (at the rate of 8.0% of salary), and the balance of $1,122,643,073 represents the present value of future contributions payable by the employers.

2. The employers' contributions to the Local Government Division on account of benefits consist of three amounts set by statute. The basic amount is 8.98% of salary (after reduction for the PERA Health Care Trust Fund Contribution of 1.02% of salary). For members of the PERA Benefit Structure hired on or after January 1, 2007, an allocation of the statutory rates of 1.00% of salary is made each year to pre-fund the Annual Increase Reserve which provides post-retirement increases for these members in retirement. In addition, employers will make Amortization Equalization Disbursement (AED) and Supplemental Amortization Equalization Disbursement (SAED) contributions in the future at the following rates:

Year	AED	SAED
2015 and later	2.20%	1.50%

Local Government Division (continued)

3. The valuation indicates an employer normal cost rate of 2.51% of salary is required to provide the benefits for the Local Government Division. After adjusting for administrative expenses, prospective employer normal costs at this rate have a present value of $119,105,968. When this amount is subtracted from $1,122,643,073, which is the present value of the total future contributions to be made by the employers, there remains $1,003,537,105 as the amount of future actuarial accrued liability contributions.

4. After recognizing the required employer normal cost rates, the remaining basic contribution amounts to 9.70% of salary. Contributions at this level will amortize the unfunded actuarial accrued liability of $1,003,537,105 over 28 years, assuming the aggregate payroll of the Local Government Division increases by 3.90% each year.

5. Effective July 1, 2005, Colorado PERA began receiving employer contributions on compensation paid to PERA retirees who are working at PERA affiliated employers. The employer rate is the total rate within the division, including both AED and SAED. Effective January 1, 2011, Colorado PERA began receiving employee contributions on compensation paid to PERA retirees who are working at PERA affiliated employers. The working retiree does not accrue an additional benefit and is not eligible for a refund of these contributions.

Judicial Division

1. The total valuation balance sheet on account of benefits shows that the Judicial Division has total prospective benefit liabilities of $462,148,609, of which $230,268,832 is for the prospective benefits payable on account of present retired members and survivors of deceased members, $2,034,022 is for the prospective benefits payable on account of present inactive members, and $229,845,755 is for the prospective benefits payable on account of present active members. Against these prospective benefit liabilities the Judicial Division has a total present actuarial value of assets of $286,890,898 as of December 31, 2015. The difference of $175,257,711 between the total prospective liabilities and the total present actuarial value of assets represents the present value of contributions to be made in the future on account of benefits. Of this amount, $28,745,708 is the present value of future contributions expected to be made by members (at the rate of 8.0% of salary), and the balance of $146,512,003 represents the present value of future contributions payable by the employers.

2. The employers' contributions to the Judicial Division on account of benefits consist of three amounts set by statute. The basic amount is 12.64% of salary (after reduction for the PERA Health Care Trust Fund Contribution of 1.02% of salary). For members of the PERA Benefit Structure hired on or after January 1, 2007, an allocation of the statutory rates of 1.00% of salary is made each year to pre-fund the Annual Increase Reserve which provides post-retirement increases for these members in retirement. In addition, employers will make Amortization Equalization Disbursement (AED) and Supplemental Amortization Equalization Disbursement (SAED) contributions in the future at the following rates:

Year	AED	SAED
2015 and later	2.20%	1.50%

Judicial Division (continued)

3. The valuation indicates an employer normal cost rate of 9.55% of salary is required to provide the benefits for the Judicial Division. After adjusting for administrative expenses, prospective employer normal costs at this rate have a present value of $31,437,251. When this amount is subtracted from $146,512,003, which is the present value of the total future contributions to be made by the employers, there remains $115,074,752 as the amount of future actuarial accrued liability contributions.

4. After recognizing the required employer normal cost rates, the remaining basic contribution amounts to 6.48% of salary. Contributions at this level will never amortize the unfunded actuarial accrued liability of $115,074,752, assuming the aggregate payroll of the Judicial Division increases by 3.90% each year.

5. Effective July 1, 2005, Colorado PERA began receiving employer contributions on compensation paid to PERA retirees who are working at PERA affiliated employers. The employer rate is the total rate within the division, including both AED and SAED. Effective January 1, 2011, Colorado PERA began receiving employee contributions on compensation paid to PERA retirees who are working at PERA affiliated employers. The working retiree does not accrue an additional benefit and is not eligible for a refund of these contributions.

Denver Public Schools Division

1. The total valuation balance sheet on account of benefits shows that the Denver Public Schools Division has total prospective benefit liabilities of $4,616,203,186, of which $2,647,440,399 is for the prospective benefits payable on account of present retired members and survivors of deceased members, $85,438,672 is for the prospective benefits payable on account of present inactive members, and $1,883,324,115 is for the prospective benefits payable on account of present active members. Against these prospective benefit liabilities the Denver Public Schools Division has a total present actuarial value of assets of $3,207,326,956 as of December 31, 2015. The difference of $1,408,876,230 between the total prospective liabilities and the total present actuarial value of assets represents the present value of contributions to be made in the future on account of benefits. Of this amount, $477,835,555 is the present value of future contributions expected to be made by members (at the rate of 8.0% of salary), and the balance of $931,040,675 represents the present value of future contributions payable by the employers.

2. The employers' contributions to the Denver Public Schools Division on account of benefits consist of three amounts set by statute. The basic amount is 9.13% of salary (after reduction for the DPS Health Care Trust Fund Contribution of 1.02% of salary). For members of the PERA Benefit Structure hired on or after January 1, 2010, an allocation of the statutory rates of 1.00% of salary is made each year to pre-fund the Annual Increase Reserve which provides post-retirement increases for these members in retirement. In addition, employers will make Amortization Equalization Disbursement (AED) and Supplemental Amortization Equalization Disbursement (SAED) contributions in the future at the following rates:

Year	AED	SAED
2015	4.20%	4.00%
2016	4.50	4.50
2017	4.50	5.00
2018 and later	4.50	5.50

Section IV – Comments on the Valuation (continued)

Denver Public Schools Division (continued)

3. The valuation indicates an employer normal cost rate of 4.40% of salary is required to provide the benefits for the Denver Public Schools Division. After adjusting for administrative expenses, prospective employer normal costs at this rate have a present value of $233,127,175. When this amount is subtracted from $931,040,675, which is the present value of the total future contributions to be made by the employers, there remains $697,913,500 as the amount of future actuarial accrued liability contributions.

4. Actual employer contributions are reduced by an amount equal to the principal payments plus interest necessary each year to finance the Pension Certificates of Participation (PCOPs) issued in 1997 and 2008 and refinanced during 2011, 2012 and 2013. The amount of the credit for the 2016 fiscal year is $98,209,675 and for the 2017 fiscal year is $98,531,203 (estimated to be 15.96% of salary for 2016 and 15.32% of salary for 2017), not considering any refinancing that may happen in the future.

5. After recognizing the required employer normal cost rates and the PCOP credit, the remaining basic contribution amounts to 0.00% of salary. Contributions at this level will never amortize the unfunded actuarial accrued liability of $697,913,500, assuming the aggregate payroll of the Denver Public Schools Division increases by 3.90% each year. As currently structured, the PCOP credit is expected to decline as a percentage of active member payroll, resulting in an expected amortization period of less than 30 years. Colorado statutes call for a "true-up" in 2020, and every five years following, with the expressed purpose of adjusting the total DPS Contribution rate to ensure equalization of the ratio of unfunded actuarial accrued liability over payroll between the DPS and School Divisions at the end of the 30-year period beginning January 1, 2010.

6. Effective January 1, 2010, Colorado PERA began receiving employer contributions on compensation paid to DPS Benefit Structure retirees who are working at PERA affiliated employers. The employer rate is the total rate within the division, including both AED and SAED. Effective January 1, 2011, Colorado PERA began receiving employee contributions on compensation paid to PERA retirees who are working at PERA affiliated employers. The working retiree does not accrue an additional benefit and is not eligible for a refund of these contributions.

Section IV – Comments on the Valuation (continued)

PERA Health Care Trust Fund (PERA HCTF)

1. The total valuation balance sheet on account of health care benefits shows the PERA HCTF has total prospective health care benefit liabilities of $1,643,336,810, of which $1,065,756,112 is for the prospective benefits payable on account of present PERACare enrollees receiving a health care subsidy pursuant to law, $33,288,545 is for the prospective benefits payable on account of present eligible inactive members, and $544,292,153 is for the prospective benefits payable on account of present active members. These amounts are net of any PERACare enrollee premiums required for enrollment in PERACare. Against these prospective health care benefit liabilities, the PERA HCTF has a total present actuarial value of assets of $285,588,114 as of December 31, 2015. The difference of $1,357,748,696 between the total prospective liabilities and the total present actuarial value of assets represents the present value of contributions to be made in the future on account of health care benefits. As active members do not contribute to the PERA HCTF, the present value of future contributions payable by employers is $1,357,748,696.

2. The employers' contributions to the PERA HCTF consist of a statutorily mandated 1.02% of salary. The valuation indicates an employer normal cost rate of 0.21% of salary is required to provide the health care benefits funded by the PERA HCTF.

3. At the rate noted in paragraph 2, prospective employer normal costs have a present value of $87,067,825. When this amount is subtracted from $1,357,748,696, which is the present value of the total future contributions to be made by the employers, there remains $1,270,680,871 as the amount of future actuarial accrued liability contributions.

4. After recognizing the required normal cost rate, the remaining contribution amounts to 0.81% of salary. Contributions at this level will amortize the unfunded actuarial accrued liability of $1,270,680,871 over 35 years.

DPS Health Care Trust Fund (DPS HCTF)

1. The total valuation balance sheet on account of health care benefits shows the DPS HCTF has total prospective health care benefit liabilities of $83,110,082, of which $49,249,916 is for the prospective benefits payable on account of present PERACare enrollees receiving a health care subsidy pursuant to law, $641,480 is for the prospective benefits payable on account of present deferred vested members, and $33,218,686 is for the prospective benefits payable on account of present active members. These amounts are net of any PERACare enrollee premiums required for enrollment in PERACare. Against these prospective health care benefit liabilities, the DPS HCTF has a total present actuarial value of assets of $17,557,168 as of December 31, 2015. The difference of $65,552,914 between the total prospective liabilities and the total present actuarial value of assets represents the present value of contributions to be made in the future on account of health care benefits. As active members do not contribute to the DPS HCTF, the present value of future contributions payable by employers is $65,552,914.

2. The employers' contributions to the DPS HCTF consist of a statutorily mandated 1.02% of salary. The valuation indicates an employer normal cost rate of 0.21% of salary is required to provide the health care benefits funded by the DPS HCTF.

3. At the rate noted in paragraph 2, prospective employer normal costs have a present value of $8,213,265. When this amount is subtracted from $65,552,914, which is the present value of the total future contributions to be made by the employers, there remains $57,339,649 as the amount of future actuarial accrued liability contributions.

4. After recognizing the required normal cost rate, the remaining contribution amounts to 0.81% of salary. Contributions at this level will amortize the unfunded actuarial accrued liability of $57,339,649 over 14 years.

Section V – Contributions Payable by Employers

1. The statutory employer contribution rates for each division are shown in the following table:

Division	Employer Contribution Rate
State	
Non-Troopers	10.15%
Troopers	12.85
School	10.15
Local Government	10.00
Judicial	13.66
Denver Public Schools	10.15

2. For each division, 1.02% of the statutory rates shown above are allocated to the Health Care Trust Funds.

3. In addition to the statutory rates shown in paragraph 1, AED contributions and SAED contributions are to be made by all employers in amounts shown in the tables from Section IV. Those amounts are continued in each division until the division's actuarial funded ratio exceeds 103%. At that time, the amount of the AED and SAED will each be reduced by 0.5% of payroll.

4. For the DPS Division, the statutory rates, including AED and SAED contributions are being offset annually by an amount equivalent to that which Denver Public Schools pays to finance principal and interest payments on Pension Certificates of Participation (PCOPs) issued in 1997 and 2008 and refinanced during 2011, 2012 and 2013.

5. The tables on the following pages show the development of the normal cost rate, the unfunded actuarial accrued liability (UAAL) payment, amortization period and the actuarially determined contribution rate based on the Funding Policy for each division as well as for the Health Care Trust Funds.

Section V – Contributions Payable by Employers (continued)

2017 Employer Contribution Rate

Expressed as Percent of Active Member Payroll

	State Division	School Division	Local Government Division	Judicial Division	Denver Public Schools Division
Contribution For					
Normal Cost					
Service Retirement Benefits	7.72%	9.06%	7.29%	14.71%	8.73%
Disability Benefits	0.38%	0.24%	0.25%	0.89%	0.31%
Survivor Benefits	0.16%	0.13%	0.16%	0.45%	0.13%
Separation Benefits	2.32%	2.42%	2.46%	1.15%	2.88%
Administrative Expense Load	0.35%	0.35%	0.35%	0.35%	0.35%
Total	10.93%	12.20%	10.51%	17.55%	12.40%
Member Current Contributions*	8.05%	8.00%	8.00%	8.00%	8.00%
Employer Normal Cost	2.88%	4.20%	2.51%	9.55%	4.40%
Employer Contribution Rate*	18.75%	18.24%	12.21%	16.03%	2.77%**
Percent Available to Amortize Unfunded Actuarial Accrued Liability (UAAL)	15.87%	14.04%	9.70%	6.48%	0.00%
Number of Years to Amortize UAAL					
▪ Current Contributions	44 years	50 years	28 years	Infinite	Infinite
▪ With Future Increases to AED and SAED	44 years	46 years	28 years	Infinite	Infinite***
Actuarially Determined Employer Contribution Rate to pay Normal Cost and amortize UAAL based on Funding Policy (in addition to assumed AED and SAED payments throughout the amortization period)	12.71%	12.58%	8.22%	18.84%	0.32%

* Weighted average for State Division and Employer Contribution Rate is adjusted by contributions to the AIR for all divisions.

** For DPS Division:

Employer Statutory	9.61%	(weighted)
AED and SAED	9.50	
DPS HCTF	(1.02)	
PCOP Credit	(15.32)	
Net	2.77%	

*** The infinite amortization period of the DPS Division reflects the expected level of the DPS Division's 2017 employer contribution offsets resulting from the cost of certain Pension Certificates of Participation (PCOP). As the PCOP offsets are expected to reduce over time, the realized amortization period is expected to be below 30 years if the DPS Division's statutory employer contribution amounts are maintained at their current level. Additionally, Colorado statutes call for a "true-up" in 2020, and every five years following, with the expressed purpose of adjusting the total DPS Division contribution rate to ensure equalization of the ratio of unfunded actuarial accrued liability over payroll between the DPS Division and the School Division as of December 31, 2040. The initial and most recent true-up resulted in an employer contribution rate for the DPS Division of 10.15%, an amount in excess of that indicated by the statutory equalization ratio.

2017 Employer Contribution Rate

Expressed as Percent of Active Member Payroll

	PERA Health Care Trust Fund	DPS Health Care Trust Fund
Contribution For		
Normal Cost		
Service Retirement Benefits	0.17%	0.18%
Disability Benefits	0.01%	0.01%
Survivor Benefits	0.00%	0.00%
Separation Benefits	0.03%	0.02%
Total	0.21%	0.21%
Member Current Contributions	0.00%	0.00%
Employer Normal Cost	0.21%	0.21%
Employer Contribution Rate	1.02%	1.02%
Percent Available to Amortize Unfunded Actuarial Accrued Liability (UAAL)	0.81%	0.81%
Number of Years to Amortize UAAL ▪ Current Contributions	35 years	14 years
Employer Annual Required Contribution Rate to pay Normal Cost and amortize UAAL over 30 years	1.08%	0.68%

Section VI – Accounting and Historical Funding Information

1. The Governmental Accounting Standards Board (GASB) issued Statement No. 67 which replaces Statement No. 25 for plan years beginning after June 15, 2013. The information required under GASB 67 was provided in separate reports. However, GASB 43 and 45 set forth certain items of required supplementary information to be disclosed in the financial statements of PERA and the employers. One such item is a distribution of the number of employees by type of membership, as follows:

NUMBER OF ALL MEMBERS
AS OF DECEMBER 31, 2015

GROUP	NUMBER					
	State Division	School Division	Local Government Division	Judicial Division	Denver Public Schools Division	Total
Retirees and survivors currently receiving benefits	36,992	60,109	6,777	345	6,812	111,035
Terminated employees entitled to benefits but not yet receiving benefits	6,075	14,904	2,791	7	1,109	24,886
Inactive Members	69,385	108,184	21,915	8	8,118	207,610
Active Members						
Vested						
General employees	30,702	66,840	6,090	287	6,849	110,768
State troopers	640	0	0	0	0	640
Non-vested						
General employees	23,748	53,399	6,086	47	9,080	92,360
State troopers	201	0	0	0	0	201
Total Active Members	55,291	120,239	12,176	334	15,929	203,969
Totals	167,743	303,436	43,659	694	31,968	547,500

NUMBER OF ALL MEMBERS
AS OF December 31, 2015

GROUP	NUMBER		Total
	PERA Health Care Trust Fund	DPS Health Care Trust Fund	
Retirees and survivors currently receiving benefits	55,092	3,930	59,022
Terminated employees entitled to benefits but not yet receiving benefits	23,777	1,109	24,886
Inactive Members	N/A	N/A	N/A
Active Members	188,040	15,929	203,969
Totals	266,909	20,968	287,877

Section VI – Accounting and Historical Funding Information (continued)

2. Another such item to be disclosed is the schedule of funding progress as shown below.

SCHEDULE OF FUNDING PROGRESS
($ IN THOUSANDS)

Actuarial Valuation Date	Actuarial Value of Plan Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Reported Payroll (c)	UAAL as a Percentage of Reported Payroll ((b – a) / c)
STATE DIVISION						
12/31/2015	$ 13,882,820	$ 24,085,671	$ 10,202,851	57.6%	$ 2,641,867	386.2%
12/31/2014	13,523,488	23,408,321	9,884,833	57.8%	2,564,670	385.4%
12/31/2013	13,129,460	22,843,725	9,714,265	57.5%	2,474,965	392.5%
12/31/2012	12,538,675	21,191,495	8,652,820	59.2%	2,384,934	362.8%
12/31/2011	12,010,045	20,826,543	8,816,498	57.7%	2,393,791	368.3%
12/31/2010	12,791,946	20,356,176	7,564,230	62.8%	2,392,080	316.2%
12/31/2009	13,382,736	19,977,217	6,594,481	67.0%	2,384,137	276.6%
12/31/2008	13,914,371	20,498,668	6,584,297	67.9%	2,371,639	277.6%
12/31/2007	14,220,681	19,390,296	5,169,615	73.3%	2,236,518	231.1%
12/31/2006	13,327,290	18,246,010	4,918,720	73.0%	2,099,325	234.3%
SCHOOL DIVISION						
12/31/2015	$ 22,871,661	$ 37,677,153	$ 14,805,492	60.7%	$ 4,235,290	349.6%
12/31/2014	22,143,356	36,386,532	14,243,176	60.9%	4,063,236	350.5%
12/31/2013	21,369,380	35,437,312	14,067,932	60.3%	3,938,650	357.2%
12/31/2012	20,266,574	32,619,033	12,352,459	62.1%	3,819,066	323.4%
12/31/2011	19,266,110	31,986,199	12,720,089	60.2%	3,821,603	332.8%
12/31/2010	20,321,736	31,339,754	11,018,018	64.8%	3,900,662	282.5%
12/31/2009	21,054,910	30,412,815	9,357,905	69.2%	3,922,175	238.6%
12/31/2008	21,733,329	31,000,202	9,266,873	70.1%	3,804,927	243.5%
12/31/2007	22,070,769	29,241,428	7,170,659	75.5%	3,618,258	198.2%
12/31/2006	20,535,733	27,708,682	7,172,949	74.1%	3,371,186	212.8%
LOCAL GOVERNMENT DIVISION						
12/31/2015	$ 3,777,161	$ 4,780,698	$ 1,003,537	79.0%	$ 561,518	178.7%
12/31/2014	3,629,400	4,610,967	981,567	78.7%	540,468	181.6%
12/31/2013	3,291,298	4,502,282	1,210,984	73.1%	529,003	228.9%
12/31/2012	3,098,721	4,157,621	1,058,900	74.5%	523,668	202.2%
12/31/2011	2,882,691	4,160,015	1,277,324	69.3%	718,169	177.9%
12/31/2010	2,926,045	4,005,566	1,079,521	73.0%	705,265	153.1%
12/31/2009	2,932,628	3,850,821	918,193	76.2%	705,097	130.2%
12/31/2008	2,933,296	3,838,083	904,787	76.4%	718,902	125.9%
12/31/2007	2,892,847	3,563,199	670,352	81.2%	680,442	98.5%
12/31/2006	2,613,386	3,288,421	675,035	79.5%	636,300	106.1%

SCHEDULE OF FUNDING PROGRESS
($ IN THOUSANDS)

Actuarial Valuation Date	Actuarial Value of Plan Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Reported Payroll (c)	UAAL as a Percentage of Reported Payroll ((b – a) / c)
JUDICIAL DIVISION						
12/31/2015	$ 286,891	$ 401,966	$ 115,075	71.4%	$ 46,870	245.5%
12/31/2014	270,866	371,253	100,387	73.0%	42,977	233.6%
12/31/2013	256,800	351,598	94,798	73.0%	39,942	237.3%
12/31/2012	238,807	326,897	88,090	73.1%	39,045	225.6%
12/31/2011	221,515	319,437	97,922	69.3%	39,033	250.9%
12/31/2010	227,814	303,839	76,025	75.0%	37,412	203.2%
12/31/2009	228,714	295,696	66,982	77.3%	37,583	178.2%
12/31/2008	230,967	288,058	57,091	80.2%	35,937	158.9%
12/31/2007	231,228	264,210	32,982	87.5%	31,150	105.9%
12/31/2006	210,633	247,491	36,858	85.1%	29,151	126.4%
DENVER PUBLIC SCHOOLS DIVISION						
12/31/2015	$ 3,207,327	$ 3,905,240	$ 697,913	82.1%	$ 621,115	112.4%
12/31/2014	3,151,456	3,816,093	664,637	82.6%	584,319	113.7%
12/31/2013	3,075,895	3,785,872	709,977	81.2%	547,660	129.6%
12/31/2012	2,936,695	3,495,549	558,854	84.0%	510,872	109.4%
12/31/2011	2,804,706	3,442,527	637,821	81.5%	491,646	129.7%
12/31/2010	2,961,720	3,332,814	371,094	88.9%	470,774	78.8%
PERA HEALTH CARE TRUST FUND						
12/31/2015	$285,588	$1,556,269	$1,270,681	18.4%	$7,485,545	17.0%
12/31/2014	297,377	1,534,461	1,237,084	19.4%	7,211,351	17.2%
12/31/2013	293,556	1,557,406	1,263,850	18.8%	6,982,560	18.1%
12/31/2012	285,097	1,723,495	1,438,398	16.5%	6,766,713	21.3%
12/31/2011	282,228	1,710,790	1,428,562	16.5%	6,972,596	20.5%
12/31/2010	288,193	1,642,993	1,354,800	17.5%	7,035,419	19.3%
12/31/2009	260,341	1,763,241	1,502,900	14.8%	7,048,992	21.3%
12/31/2008	255,976	1,368,633	1,112,657	18.7%	6,931,405	16.1%
12/31/2007	258,775	1,303,594	1,044,819	19.9%	6,566,368	15.9%
12/31/2006	214,816	1,247,950	1,033,134	17.2%	6,135,962	16.8%
DPS HEALTH CARE TRUST FUND						
12/31/2015	$17,557	$74,897	$57,340	23.4%	$621,115	9.2%
12/31/2014	16,502	76,026	59,524	21.7%	584,319	10.2%
12/31/2013	15,482	76,636	61,154	20.2%	547,660	11.2%
12/31/2012	14,443	77,669	63,226	18.6%	510,872	12.4%
12/31/2011	14,448	77,475	63,027	18.6%	491,646	12.8%
12/31/2010	14,086	78,513	64,427	17.9%	470,774	13.7%

3. The information presented in the financial statements for pension benefits was determined as part of the actuarial valuation at December 31, 2015.

	State Division	School Division	Local Government Division	Judicial Division	Denver Public Schools Division
Valuation date	12/31/2015	12/31/2015	12/31/2015	12/31/2015	12/31/2015
Actuarial cost method	Entry age	Entry age	Entry age	Entry age	Entry age
Amortization method*	Level percent Closed	Level percent Closed	Level percent Closed	Level percent Closed	Level percent Closed
Blended remaining amortization period	29 years	29 years	29 years	29 years	29 years
Asset valuation method	4 year smoothed Market	4 year smoothed Market	4 year smoothed Market	4 year smoothed Market	4 year smoothed Market
Actuarial assumptions:					
Investment rate of return**	7.50%	7.50%	7.50%	7.50%	7.50%
Projected salary increases**	3.90 – 9.57%	3.90 – 10.10%	3.90 – 10.85%	4.40 – 5.40%	3.90 – 10.10%
Post-Retirement Benefit Increases:					
PERA Benefit Structure and membership prior to 1/1/07; or DPS Benefit Structure	2.00% compounded annually	2.00% compounded annually	2.00% compounded annually	2.00% compounded annually	2.00% compounded annually
PERA Benefit Structure and membership after 12/31/06	None***	None***	None***	None***	None***

* Effective with the December 31, 2014 valuation, gains and losses are to be amortized over a closed period. See Schedule I for a full description of the determination of the ADC defined in the Colorado PERA Defined Benefit Pension Plan Funding Policy.

** Includes inflation at 2.80%.

*** Post-Retirement Benefit Increases are provided by a separate fund subject to monies being available.

Section VI – Accounting and Historical Funding Information (continued)

4. The information presented in the required supplementary schedules for health care benefits was determined as part of the actuarial valuation at December 31, 2015.

	PERA Health Care Trust Fund	DPS Health Care Trust Fund
Valuation date	12/31/2015	12/31/2015
Actuarial cost method	Entry age (Level Dollar)	Entry age (Level Dollar)
Amortization method	Level percent Open	Level percent Open
Amortization period	30 years	30 years
Asset valuation method	4 year smoothed Market	4 year smoothed Market
Actuarial assumptions:		
Investment rate of return*	7.50%	7.50%
Projected salary increases*	3.90% in aggregate	3.90% in aggregate
Health Care Inflation Factor		
Service-Based Premium Subsidy	0.00%	0.00%
Medicare Part A Premiums	2.75% Initial 4.25% Ultimate	n/a
Carrier Premiums	5.00%	n/a

* Includes inflation at 2.80%.

5. **SCHEDULE OF EMPLOYER CONTRIBUTIONS***

Calendar Year	Actuarially Determined Contribution in Dollars ($ in thousands)	Actuarially Determined Contribution as a Percent of Pay	Percent Of ADC Contributed
State Division			
2015	$590,457	22.35%	80%
2014	524,475	20.45%	83%
2013	495,241	20.01%	79%
2012	393,991	16.52%**	83%
2011	326,274	13.63%**	85%
2010	452,821	18.93%**	62%
2009	426,999	17.91%	69%
2008	437,567	18.45%	61%
2007	385,352	17.23%	60%
2006	405,800	19.33%	51%
School Division			
2015	$929,223	21.94%	79%
2014	798,426	19.65%	84%
2013	779,459	19.79%	79%
2012	672,156	17.60%	84%
2011	601,138	15.73%	89%
2010	731,374	18.75%	70%
2009	649,512	16.56%	73%
2008	653,686	17.18%	65%
2007	581,092	16.06%	64%
2006	651,650	19.33%	52%
Local Government Division			
2015	$ 76,479	13.62%	89%
2014	63,667	11.78%	397%
2013	56,180	10.62%	116%
2012	51,267	9.79%	163%
2011	64,492	8.98%	139%
2010	86,818	12.31%	101%
2009	78,548	11.14%	106%
2008	85,909	11.95%	91%
2007	76,278	11.21%	89%
2006	89,782	14.11%	68%

* All contribution amounts are exclusive of AIR Contributions.

** The State Division 2010, 2011 and 2012 ADCs have been adjusted to reflect the contribution rate swap of 2.5% of payroll for the period July 1, 2010 through June 30, 2012 decreasing the employer contribution rate.

SCHEDULE OF EMPLOYER CONTRIBUTIONS*

Calendar Year	Actuarially Determined Contribution in Dollars ($ in thousands)	Actuarially Determined Contribution as a Percent of Pay	Percent Of ADC Contributed
Judicial Division			
2015	$ 10,054	21.45%	75%
2014	8,625	20.07%	81%
2013	8,599	21.53%	76%
2012	7,137	18.28%**	82%
2011	6,362	16.30%**	84%
2010	6,970	18.63%**	80%
2009	6,419	17.08%	90%
2008	6,346	17.66%	80%
2007	4,775	15.33%	88%
2006	5,017	17.21%	75%
Denver Public Schools Division			
2015	$ 68,695	11.06%	8%
2014	56,504	9.67%	28%
2013	63,145	11.53%	37%
2012	49,044	9.60%	27%
2011	58,260	11.85%***	20%
2010	68,780	14.61%****	8%

* All contribution amounts are exclusive of AIR Contributions.

** The Judicial Division 2010, 2011 and 2012 ADCs have been adjusted to reflect the contribution rate swap of 2.5% of payroll for the period July 1, 2010 through June 30, 2012 decreasing the employer contribution rate.

*** Blended Rate for 2011 from 2008 and 2009 Annual Valuations from previous DPSRS actuary

**** Blended Rate for 2010 from 2007 and 2008 Annual Valuations from previous DPSRS actuary

Section VI – Accounting and Historical Funding Information (continued)

SCHEDULE OF EMPLOYER CONTRIBUTIONS

Calendar Year	Annual Required Contribution (ARC) (a)	PERA Payroll Allocations (b)	Retiree Drug Subsidy (RDS) Contribution (c)	Total Contribution (d) = (b)+(c)	Percentage of ARC Contributed (e) = (d)/(a)
PERA Health Care Trust Fund					
2015	$ 86,083,768	$ 78,462,738	$ 0	$ 78,462,738	91%
2014	95,189,820	79,625,680	(1,307)	79,624,373	84%
2013	86,583,744	72,785,209	15,731,044	88,516,253	102%
2012	79,847,213	72,556,763	14,197,649	86,754,412	109%
2011	89,249,242	73,448,775	14,151,366	87,600,141	98%
2010	78,796,693	74,047,581	14,168,745	88,216,326	112%
2009	78,948,710	74,072,676	13,633,368	87,706,044	111%
2008	76,938,596	72,599,167	13,742,749	86,341,916	112%
2007	78,139,779	68,507,982	12,396,777	80,904,759	104%
2006	73,017,948	64,546,501	12,481,068	77,027,569	105%
DPS Health Care Trust Fund					
2015	$ 5,031,032	$ 6,370,903	$ 0	$ 6,370,903	127%
2014	5,083,575	6,003,241	394	6,003,635	118%
2013	4,709,876	5,557,244	562,761	6,120,005	130%
2012	4,700,022	5,243,219	488,054	5,731,273	122%
2011	4,523,143	5,029,151	498,974	5,528,125	122%
2010	4,465,261	4,761,581	536,814	5,298,395	119%

The ARCs shown above reflect a 12-month lag between the valuation date and the beginning of the applicable calendar year.

To comply with GASB 43, beginning with the results of the December 31, 2005 valuation, the unfunded actuarial accrued liability (UAAL) is amortized over 30 years in determining the ARC.

For the results of the valuations from December 31, 2005 through December 31, 2012, the following changes were implemented to comply with GASB 43 as clarified by GASB Technical Bulletin 2006-1:

- All liabilities were determined without a reduction for expected future RDS payments.
- The total HCTF contribution was determined to be the statutory employer contribution plus that year's actual RDS payments.

Effective January 1, 2014, PERACare discontinued its participation in the Centers for Medicare & Medicaid Services' (CMS) Retiree Drug Subsidy (RDS) Program. As of January 1, 2014, PERACare enrollees participating in the self-insured Medicare supplement plans and the Medicare HMO plan offered by Rocky Mountain Health Plans receive their prescription drug benefits through a Medicare Prescription Drug Plan (PDP). As the Medicare Part D subsidies implicit in the lower costs for PDPs may be recognized in the liability under GASB Statements No. 43 and No. 45, the liability associated with the premium subsidies funded by estimated RDS receipts has been eliminated and, therefore, is not included in the results of valuations dated on or after December 31, 2013.

Pension Changes in Unfunded Actuarial Accrued Liabilities (UAAL)
During Calendar Year 2015
($ in Millions)

	State Division	School Division	Local Government Division	Judicial Division	Denver Public Schools Division	Total Pension
1) Beginning of Year:						
a) Unfunded Actuarial Accrued Liability	$9,884.8	$14,243.2	$ 981.6	$ 100.4	$ 664.6	$25,874.6
b) Normal Cost	286.9	513.2	58.2	7.9	76.0	942.2
c) Total Required Contributions	803.1	1,268.0	121.4	13.8	118.4	2,324.7
d) Total Actual Contributions	690.6	1,087.1	113.3	11.3	55.3	1,957.6
2) End of Year:						
a) Expected UAAL from previous valuation [(1a) + 1(b)] x 1.075 – (1c) x 1.0375	$10,101.4	$14,547.6	$991.8	$102.1	$673.3	$26,416.2
b) Expected UAAL on actual contributions [(1a) + 1(b)] x 1.075 – (1d) x 1.0375	10,218.1	14,735.3	1,000.2	104.7	738.8	26,797.1
c) Increase in UAAL due to Deficiency (2b) – (2a)	116.7	187.7	8.4	2.6	65.5	380.9
3) Changes on this Year's Activities						
a) Liability Gain/(Loss)	$(122.8)	$(285.8)	$(31.9)	$(12.7)	$7.4	$(445.8)
b) Investment Gain/(Loss)	138.0	215.6	28.6	2.3	33.5	418.0
c) Change in Plan Assumptions	0.0	0.0	0.0	0.0	0.0	0.0
d) Change in Plan Provisions	0.0	0.0	0.0	0.0	0.0	0.0
e) Change in Methods	0.0	0.0	0.0	0.0	0.0	0.0
f) Total	$15.2	$(70.2)	$(3.3)	$(10.4)	$40.9	$(27.8)
4) Actual UAAL at End of Year (2a) + (2c) – (3f)	$10,202.9	$14,805.5	$1,003.5	$ 115.1	$ 697.9	$26,824.9

PERA HCTF and DPS HCTF Changes in Unfunded Actuarial Accrued Liabilities (UAAL)

During Calendar Year 2015

($ in Millions)

	PERA HCTF	DPS HCTF
1) Beginning of Year:		
a) Unfunded Actuarial Accrued Liability (UAAL)	$1,237.1	$59.5
b) Normal Cost	16.4	1.5
c) Total Required Contributions	86.1	5.0
d) Total Actual Contributions*	86.0	6.5
2) End of Year:		
a) Expected UAAL from previous valuation [(1a) + 1(b)] x 1.075 – (1c) x 1.0375	$1,258.2	$60.4
b) Expected UAAL on actual contributions [(1a) + 1(b)] x 1.075 – (1d) x 1.0375	1,258.3	58.8
c) Increase in UAAL due to Deficiency (2b) – (2a)	0.1	(1.6)
3) Changes on this Year's Activities		
a) Liability Gain/(Loss)	$(16.8)	$1.2
b) Investment Gain/(Loss)	5.3	0.2
c) Change in Plan Assumptions	(0.5)	0.1
d) Change in Plan Provisions	0.0	0.0
e) Change in Methods	(0.4)	0.0
f) Total	$(12.4)	$1.5
4) Actual UAAL at End of Year (2a) + (2c) – (3f)	$1,270.7	$57.3

* Includes members' purchased service transfers.

Section VII – Derivation of Experience Gains and Losses (continued)

Pension Gains & (Losses) in Actuarial Accrued Liabilities

During Calendar Year 2015

($ in Millions)

Type of Activity	State Division	School Division	Local Gov't Division	Judicial Division	Denver Public Schools Division	Total
Age & Service Retirements. If members retire at older ages, there is a gain. If younger ages, a loss.	$(36.5)	$(74.9)	$(13.5)	$0.8	$(8.0)	$(132.1)
Disability Retirements. If disability claims are less than assumed, there is a gain. If more claims, a loss.	(9.8)	(9.2)	(2.1)	0.1	(1.7)	$(22.7)
Death-in Service Benefits. If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	(0.9)	(2.3)	(9.0)	0.0	(0.2)	$(12.4)
Termination of Employment. If more liabilities are released by terminations than assumed, there is a gain. If smaller releases, a loss.	(57.7)	(113.5)	(13.0)	(0.8)	12.3	$(172.7)
Pay Increases. If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	26.5	22.7	8.3	(8.5)	15.4	$64.4
New Members. Additional actuarial accrued liability will produce a loss.	(48.4)	(63.7)	(10.2)	(5.1)	(22.5)	$(149.9)
Investment Income. If there is a greater investment income than assumed, there is a gain. If less income, a loss.	138.0	215.6	28.6	2.3	33.5	$418.0
Death after Retirement. If retirants live longer than assumed, there is a loss. If not as long, a gain.	(2.9)	(60.4)	4.7	(0.2)	2.7	$(56.1)
Other. Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, etc.	6.9	15.5	2.9	1.0	9.4	$35.7
Net Gain/(Loss) During Year from Experience	$15.2	$(70.2)	$(3.3)	$(10.4)	$40.9	$(27.8)

PERA HCTF and DPS HCTF Gains & (Losses) in Actuarial Accrued Liabilities

During Calendar Year 2015

($ in Millions)

Type of Activity	PERA HCTF	DPS HCTF
Age & Service Retirements. If members retire at older ages, there is a gain. If younger ages, a loss.	$(2.9)	$(0.2)
Disability Retirements. If disability claims are less than assumed, there is a gain. If more claims, a loss.	(0.5)	0.0
Death-in Service Benefits. If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	(0.3)	0.0
Termination of Employment. If more liabilities are released by terminations than assumed, there is a gain. If smaller releases, a loss.	(4.4)	0.2
Pay Increases. If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	0.0	0.0
New Members. Additional actuarial accrued liability will produce a loss.	(3.0)	(0.4)
Investment Income. If there is a greater investment income than assumed, there is a gain. If less income, a loss.	5.3	0.2
Death after Retirement. If retirants live longer than assumed, there is a loss. If not as long, a gain.	(1.4)	0.1
Other. Gains and losses resulting from claims experience, changes in plan participation/benefit utilization, changes in valuation software, data adjustments, timing of financial transactions, etc.	(4.3)	1.5
Net Gain/(Loss) During Year from Experience	$(11.5)	$1.4

Section VII – Derivation of Experience Gains and Losses (continued)

Pension Gains & (Losses) as a Percentage of Actuarial Accrued Liabilities

During Calendar Year 2015

($ in Millions)

Type of Activity	State Division	School Division	Local Government Division	Judicial Division	Denver Public Schools Division	Total Pension
Actuarial Accrued Liability at the Beginning of the Year	$23,408.3	$36,386.5	$4,611.0	$ 371.3	$3,816.1	$68,593.2
Age & Service Retirements. If members retire at older ages, there is a gain. If younger ages, a loss.	(0.2)%	(0.2)%	(0.3)%	0.2 %	(0.2)%	(0.2)%
Disability Retirements. If disability claims are less than assumed, there is a gain. If more claims, a loss.	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Death-in Service Benefits. If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	0.0 %	0.0 %	(0.2)%	0.0 %	0.0 %	0.0 %
Termination from Employment. If more liabilities are released by terminations than assumed, there is a gain. If smaller releases, a loss.	(0.2)%	(0.3)%	(0.3)%	(0.2)%	0.3 %	(0.3)%
Pay Increases. If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	0.1 %	0.1 %	0.2 %	(2.3)%	0.4 %	0.1 %
New Members. Additional actuarial accrued liability will produce a loss.	(0.2)%	(0.2)%	(0.2)%	(1.4)%	(0.6)%	(0.2)%
Investment Income. If there is a greater investment income than assumed, there is a gain. If less income, a loss.	0.6 %	0.6 %	0.6 %	0.6 %	0.9 %	0.6 %
Death after Retirement. If retirants live longer than assumed, there is a loss. If not as long, a gain.	0.0 %	(0.2)%	0.1 %	(0.1)%	0.1 %	(0.1)%
Other. Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, etc.	0.0 %	0.0 %	0.1 %	0.3 %	0.2 %	0.1 %
Gain (or Loss) During Year from Experience	0.1 %	(0.2)%	(0.1)%	(2.8)%	1.1 %	0.0 %

Section VII – Derivation of Experience Gains and Losses (continued)

PERA HCTF and DPS HCTF Gains & (Losses) as a Percentage of Actuarial Accrued Liabilities

During Calendar Year 2015

($ in Millions)

Type of Activity	PERA HCTF	DPS HCTF
Actuarial Accrued Liability at the Beginning of the Year	$1,534.5	$76.0
Age & Service Retirements. If members retire at older ages, there is a gain. If younger ages, a loss.	(0.2)%	(0.3)%
Disability Retirements. If disability claims are less than assumed, there is a gain. If more claims, a loss.	0.0%	0.0%
Death-in Service Benefits. If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	0.0%	0.0%
Termination from Employment. If more liabilities are released by terminations than assumed, there is a gain. If smaller releases, a loss.	(0.3)%	0.3%
Pay Increases. If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	0.0%	0.0%
New Members. Additional actuarial accrued liability will produce a loss.	(0.2)%	(0.5)%
Investment Income. If there is a greater investment income than assumed, there is a gain. If less income, a loss.	0.3%	0.3%
Death after Retirement. If retirants live longer than assumed, there is a loss. If not as long, a gain.	(0.1)%	0.1%
Other. Gains and losses resulting from claims experience, changes in plan participation/benefit utilization, changes in valuation software, data adjustments, timing of financial transactions, etc.	(0.3)%	2.0%
Gain (or Loss) During Year from Experience	(0.7)%	1.8%

Section VIII – Additional Information for Health Care Trust Funds

PERA HCTF Subsidy Analysis

Calendar Year	Administrative Expenses	Claims & HMO Premiums	Total Costs (2)+(3)	PERA Subsidy Amount	PERA Subsidy Percentage (5)/(4)
(1)	(2)	(3)	(4)	(5)	(6)
2015	$17,427,167	$299,491,591	$316,918,758	$123,969,209	39%
2014	15,039,802	282,839,340	297,879,142	110,208,226	37%
2013	11,432,638	331,655,337	343,087,975	104,492,638	30%
2012	11,238,351	320,746,116	331,984,467	109,059,949	33%
2011	11,009,812	296,318,871	307,328,683	91,816,866	30%
2010	9,711,601	273,798,971	283,510,572	77,565,425	27%
2009	7,878,395	261,533,889	269,412,284	80,110,149	30%
2008	7,839,386	258,685,119	266,524,505	88,469,990	33%
2007	7,348,821	216,848,936	224,197,757	58,986,436	26%
2006	4,174,575	233,101,402	237,275,977	71,155,481	30%

DPS HCTF Subsidy Analysis

Calendar Year	Administrative Expenses	Claims & HMO Premiums	Total Costs (2)+(3)	DPS Subsidy Amount	DPS Subsidy Percentage (5)/(4)
(1)	(2)	(3)	(4)	(5)	(6)
2015	$664,771	$18,913,393	$19,578,164	$6,831,344	35%
2014	535,270	18,568,484	19,103,754	6,524,980	34%
2013	397,301	23,483,334	23,880,635	6,366,156	27%
2012	383,943	22,993,959	23,377,902	6,652,676	28%
2011	392,263	23,026,025	23,418,288	6,165,753	26%
2010	460,196	22,531,118	22,991,314	6,233,170	27%

Notes:

- Administrative Expenses total includes expenses associated with claims administration.
- Claims and HMO Premiums total reflects actual claims and premiums paid (net of any premium variance).
- The subsidy analysis schedule presented above was revised, beginning with the December 31, 2006 valuation report, for all years shown to include the premiums paid by retirees for HMOs in the claims and HMO premiums and in the total cost columns. The total cost includes all health care costs for retirees, beneficiaries and actives. Also, claims experience gains and losses are now included in the actual PERA and DPS subsidies.

Schedule A – Valuation Balance Sheet and Solvency Test

VALUATION BALANCE SHEET
SHOWING THE PRESENT AND PROSPECTIVE ASSETS AND LIABILITIES OF THE PUBLIC EMPLOYEES' RETIREMENT ASSOCIATION OF COLORADO
AS OF DECEMBER 31, 2015

STATE DIVISION

PRESENT AND PROSPECTIVE ASSETS		
Actuarial Value of Present Assets		$ 13,882,819,694
Present value of future members' contributions		1,675,836,960
Present value of future employer contributions		
Normal cost	$ 647,296,505	
Unfunded actuarial accrued liability contributions	10,202,851,429	
Total prospective employer contributions		10,850,147,934
Total Present and Prospective Assets		$ 26,408,804,588
ACTUARIAL LIABILITIES		
Present value of benefits payable on account of retired members and survivors of deceased members now drawing retirement benefits		
Retired members	$ 15,688,127,578	
Survivors	201,513,926	
Total		$ 15,889,641,504
Present value of prospective benefits payable on account of inactive members		580,728,811
Present value of prospective benefits payable on account of present active members:		
Service retirement benefits	$ 8,656,832,754	
Disability retirement benefits	207,656,571	
Survivor benefits	98,587,635	
Separation benefits	975,357,313	
Total		9,938,434,273
Total Actuarial Liabilities		$ 26,408,804,588

VALUATION BALANCE SHEET
SHOWING THE PRESENT AND PROSPECTIVE ASSETS AND LIABILITIES OF
THE PUBLIC EMPLOYEES' RETIREMENT ASSOCIATION OF COLORADO
AS OF DECEMBER 31, 2015

SCHOOL DIVISION

PRESENT AND PROSPECTIVE ASSETS		
Actuarial Value of Present Assets		$ 22,871,661,446
Present value of future members' contributions		2,962,084,645
Present value of future employer contributions		
Normal cost	$ 1,575,780,549	
Unfunded actuarial accrued liability contributions	14,805,492,129	
Total prospective employer contributions		$ 16,381,272,678
Total Present and Prospective Assets		$ 42,215,018,769
ACTUARIAL LIABILITIES		
Present value of benefits payable on account of retired members and survivors of deceased members now drawing retirement benefits		
Retired members	$ 24,040,732,590	
Survivors	183,373,479	
Total		$ 24,224,106,069
Present value of prospective benefits payable on account of inactive members		909,061,614
Present value of prospective benefits payable on account of present active members:		
Service retirement benefits	$ 14,936,802,072	
Disability retirement benefits	216,441,501	
Survivor benefits	127,647,157	
Separation benefits	1,800,960,356	
Total		$ 17,081,851,086
Total Actuarial Liabilities		$ 42,215,018,769

Schedule A – Valuation Balance Sheet and Solvency Test (continued)

VALUATION BALANCE SHEET
SHOWING THE PRESENT AND PROSPECTIVE ASSETS AND LIABILITIES OF
THE PUBLIC EMPLOYEES' RETIREMENT ASSOCIATION OF COLORADO
AS OF DECEMBER 31, 2015

LOCAL GOVERNMENT DIVISION

PRESENT AND PROSPECTIVE ASSETS		
Actuarial Value of Present Assets		$ 3,777,160,876
Present value of future members' contributions		345,005,132
Present value of future employer contributions		
Normal cost	$ 119,105,968	
Unfunded actuarial accrued liability contributions	1,003,537,105	
Total prospective employer contributions		$ 1,122,643,073
Total Present and Prospective Assets		$ 5,244,809,081
ACTUARIAL LIABILITIES		
Present value of benefits payable on account of retired members and survivors of deceased members now drawing retirement benefits		
Retired members	$ 2,947,152,816	
Survivors	37,473,224	
Total		$ 2,984,626,040
Present value of prospective benefits payable on account of inactive members		290,466,686
Present value of prospective benefits payable on account of present active members:		
Service retirement benefits	$ 1,692,282,047	
Disability retirement benefits	28,716,089	
Survivor benefits	20,499,034	
Separation benefits	228,219,185	
Total		$ 1,969,716,355
Total Actuarial Liabilities		$ 5,244,809,081

Schedule A – Valuation Balance Sheet and Solvency Test (continued)

VALUATION BALANCE SHEET
SHOWING THE PRESENT AND PROSPECTIVE ASSETS AND LIABILITIES OF
THE PUBLIC EMPLOYEES' RETIREMENT ASSOCIATION OF COLORADO
AS OF DECEMBER 31, 2015

JUDICIAL DIVISION

PRESENT AND PROSPECTIVE ASSETS		
Actuarial Value of Present Assets		$ 286,890,898
Present value of future members' contributions		28,745,708
Present value of future employer contributions		
Normal cost	$ 31,437,251	
Unfunded actuarial accrued liability contributions	115,074,752	
Total prospective employer contributions		$ 146,512,003
Total Present and Prospective Assets		$ 462,148,609
ACTUARIAL LIABILITIES		
Present value of benefits payable on account of retired members and survivors of deceased members now drawing retirement benefits		
Retired members	$ 226,709,197	
Survivors	3,559,635	
Total		$ 230,268,832
Present value of prospective benefits payable on account of inactive members		2,034,022
Present value of prospective benefits payable on account of present active members:		
Service retirement benefits	$ 215,472,692	
Disability retirement benefits	5,753,374	
Survivor benefits	4,238,438	
Separation benefits	4,381,251	
Total		$ 229,845,755
Total Actuarial Liabilities		$ 462,148,609

VALUATION BALANCE SHEET
SHOWING THE PRESENT AND PROSPECTIVE ASSETS AND LIABILITIES OF
THE PUBLIC EMPLOYEES' RETIREMENT ASSOCIATION OF COLORADO
AS OF DECEMBER 31, 2015

DENVER PUBLIC SCHOOLS DIVISION

PRESENT AND PROSPECTIVE ASSETS		
Actuarial Value of Present Assets		$ 3,207,326,956
Present value of future members' contributions		477,835,555
Present value of future employer contributions		
Normal cost	$ 233,127,175	
Unfunded actuarial accrued liability contributions	697,913,500	
Total prospective employer contributions		$ 931,040,675
Total Present and Prospective Assets		$ 4,616,203,186
ACTUARIAL LIABILITIES		
Present value of benefits payable on account of retired members and survivors of deceased members now drawing retirement benefits		
Retired members	$ 2,622,036,824	
Survivors	25,403,575	
Total		$ 2,647,440,399
Present value of prospective benefits payable on account of inactive members		85,438,672
Present value of prospective benefits payable on account of present active members:		
Service retirement benefits	$ 1,586,994,574	
Disability retirement benefits	37,036,495	
Survivor benefits	16,501,954	
Separation benefits	242,791,092	
Total		$ 1,883,324,115
Total Actuarial Liabilities		$ 4,616,203,186

Schedule A – Valuation Balance Sheet and Solvency Test (continued)

VALUATION BALANCE SHEET
SHOWING THE PRESENT AND PROSPECTIVE ASSETS AND LIABILITIES OF
THE PUBLIC EMPLOYEES' RETIREMENT ASSOCIATION OF COLORADO
AS OF DECEMBER 31, 2015

PERA HEALTH CARE TRUST FUND

PRESENT AND PROSPECTIVE ASSETS		
Actuarial Value of Present Assets		$ 285,588,114
Present value of future members' contributions		$0
Present value of future employer contributions		
Normal cost	$ 87,067,825	
Unfunded actuarial accrued liability contributions	1,270,680,871	
Total prospective employer contributions		$ 1,357,748,696
Total Present and Prospective Assets		$ 1,643,336,810
ACTUARIAL LIABILITIES		
Present value of benefits payable on account of present benefit recipients enrolled in PERA Care and receiving a health care subsidy pursuant to law		
Retired members	$ 1,060,442,377	
Survivors	5,313,735	
Total		$ 1,065,756,112
Present value of prospective benefits payable on account of eligible inactive members		33,288,545
Present value of prospective benefits payable on account of present active members:		
Service retirement benefits	$ 492,139,292	
Disability retirement benefits	15,237,922	
Survivor benefits	1,906,810	
Separation benefits	35,008,129	
Total		$ 544,292,153
Total Actuarial Liabilities		$ 1,643,336,810

Schedule A – Valuation Balance Sheet and Solvency Test (continued)

VALUATION BALANCE SHEET
SHOWING THE PRESENT AND PROSPECTIVE ASSETS AND LIABILITIES OF
THE PUBLIC EMPLOYEES' RETIREMENT ASSOCIATION OF COLORADO
AS OF DECEMBER 31, 2015

DPS HEALTH CARE TRUST FUND

PRESENT AND PROSPECTIVE ASSETS		
Actuarial Value of Present Assets		$ 17,557,168
Present value of future members' contributions		$0
Present value of future employer contributions		
Normal cost	$ 8,213,265	
Unfunded actuarial accrued liability contributions	57,339,649	
Total prospective employer contributions		$ 65,552,914
Total Present and Prospective Assets		$ 83,110,082
ACTUARIAL LIABILITIES		
Present value of benefits payable on account of present benefit recipients enrolled in PERA Care and receiving a health care subsidy pursuant to law		
Retired members	$ 49,249,916	
Survivors	0	
Total		$ 49,249,916
Present value of prospective benefits payable on account of deferred vested members		641,480
Present value of prospective benefits payable on account of present active members:		
Service retirement benefits	$ 29,896,707	
Disability retirement benefits	1,282,416	
Survivor benefits	52,078	
Separation benefits	1,987,485	
Total		$ 33,218,686
Total Actuarial Liabilities		$ 83,110,082

Schedule A – Valuation Balance Sheet and Solvency Test (continued)

SOLVENCY TEST
($ IN THOUSANDS)

	Aggregate Accrued Liabilities For*				Portion of Accrued Liabilities Covered by Valuation Assets		
	(1) Active Member Contributions	(2) Retirees, Survivors and Inactive Members	(3) Active Members (Employer Financed Portion)	Valuation Assets	(1)	(2)	(3)
Division	**By Division as of December 31, 2015**						
State	$2,685,014	$16,470,370	$4,930,287	$13,882,820	100.0%	68.0%	0.0%
School	4,003,251	25,133,168	8,540,734	22,871,661	100.0%	75.1%	0.0%
Local	533,262	3,275,093	972,343	3,777,161	100.0%	99.0%	0.0%
Judicial	60,118	232,303	109,545	286,891	100.0%	97.6%	0.0%
DPS	394,306	2,732,879	778,055	3,207,327	100.0%	100.0%	10.3%
TOTAL	$7,675,951	$47,843,813	$15,330,964	$44,025,860	100.0%	76.0%	0.0%
Valuation Date	**Historical Totals**						
12/31/2015	$7,675,951	$47,843,813	$15,330,964	$44,025,860	100.0%	76.0%	0.0%
12/31/2014	7,579,127	46,088,397	14,925,642	42,718,566	100.0%	76.2%	0.0%
12/31/2013	7,513,091	44,469,682	14,938,016	41,122,833	100.0%	75.6%	0.0%
12/31/2012	7,426,820	41,081,983	13,281,792	39,079,472	100.0%	77.0%	0.0%
12/31/2011	7,468,008	39,328,881	13,937,832	37,185,067	100.0%	75.6%	0.0%
12/31/2010	7,377,837	37,530,979	14,429,333	39,229,261	100.0%	84.9%	0.0%
12/31/2009	7,068,660	33,621,499	13,846,390	37,598,988	100.0%	90.8%	0.0%
12/31/2008	6,992,382	34,524,824	14,107,805	38,811,963	100.0%	92.2%	0.0%
12/31/2007	6,834,261	32,017,760	13,607,112	39,415,525	100.0%	100.0%	4.1%
12/31/2006	6,742,437	29,674,682	13,073,485	36,687,042	100.0%	100.0%	2.1%

* Results do not include the Health Care Trust Funds.

Schedule A – Valuation Balance Sheet and Solvency Test (continued)

SOLVENCY TEST
($ IN THOUSANDS)

	Aggregate Accrued Liabilities For				Portion of Accrued Liabilities Covered by Valuation Assets		
Valuation Date	(1) Active Member Contributions	(2) Retirees, Survivors and Inactive Members	(3) Active Members (Employer Financed Portion)	Valuation Assets	(1)	(2)	(3)
PERA Health Care Trust Fund							
12/31/2015	$0	$1,099,045	$457,224	$285,588	N/A	26.0%	0.0%
12/31/2014	0	1,085,995	448,466	297,377	N/A	27.4%	0.0%
12/31/2013	0	1,092,438	464,968	293,556	N/A	26.9%	0.0%
12/31/2012	0	1,259,557	463,938	285,097	N/A	22.6%	0.0%
12/31/2011	0	1,251,579	459,211	282,228	N/A	22.5%	0.0%
12/31/2010	0	1,179,809	463,184	288,193	N/A	24.4%	0.0%
12/31/2009	0	1,241,349	521,892	260,341	N/A	21.0%	0.0%
12/31/2008	0	969,288	399,345	255,976	N/A	26.4%	0.0%
12/31/2007	0	926,180	377,414	258,775	N/A	27.9%	0.0%
12/31/2006	0	878,997	368,953	214,816	N/A	24.4%	0.0%
DPS Health Care Trust Fund							
12/31/2015	$0	$49,891	$25,006	$17,557	N/A	35.2%	0.0%
12/31/2014	0	50,998	25,028	16,502	N/A	32.4%	0.0%
12/31/2013	0	52,106	24,530	15,482	N/A	29.7%	0.0%
12/31/2012	0	54,727	22,942	14,443	N/A	26.4%	0.0%
12/31/2011	0	57,093	20,382	14,448	N/A	25.3%	0.0%
12/31/2010	0	58,432	20,081	14,086	N/A	24.1%	0.0%

Schedule B – Development of the Actuarial Value of Assets

DEVELOPMENT OF THE DECEMBER 31, 2015
ACTUARIAL VALUE OF ASSETS

STATE DIVISION

(1)	Actuarial Value Beginning of Year		$ 13,523,487,577
(2)	Market Value End of Year		$ 13,391,398,092
(3)	Market Value Beginning of Year		$ 13,956,630,097
(4)	Cash Flow		
	a.	Contributions	$ 717,487,310
	b.	Benefit Payments	(1,486,924,073)
	c.	Administrative Expenses	(10,778,521)
	d.	Net Transfers	5,175,493
	e.	Net Cash Flow: [(4)a + (4)b + (4)c + (4)d]	$ (775,039,791)
(5)	Investment Income		
	a.	Market total: (2) – (3) – (4)e	$ 209,807,786
	b.	Assumed Rate	7.50%
	c.	Amount of Immediate Recognition [(3) x (5)b] + [(4)e x (5)b x 0.5]	$ 1,017,683,265
	d.	Amount for Phased-in Recognition: (5)a – (5)c	$ (807,875,479)
(6)	Phased-In Recognition of Investment Income		
	a.	Current Year: 0.25 x (5)d	$ (201,968,870)
	b.	First Prior Year	(59,669,951)
	c.	Second Prior Year	233,824,896
	d.	Third Prior Year	144,502,568
	e.	Total Recognized Investment Gain	$ 116,688,643
(7)	Actuarial Value End of Year: (1) + (4)e + (5)c + (6)e		$ 13,882,819,694

DEVELOPMENT OF THE DECEMBER 31, 2015
ACTUARIAL VALUE OF ASSETS

SCHOOL DIVISION

(1)	Actuarial Value Beginning of Year		$ 22,143,356,419
(2)	Market Value End of Year		$ 22,062,123,913
(3)	Market Value Beginning of Year		$ 22,846,249,402
(4)	Cash Flow		
	a.	Contributions	$ 1,110,857,259
	b.	Benefit Payments	(2,217,629,742)
	c.	Administrative Expenses	(20,865,372)
	d.	Net Transfers	191,789
	e.	Net Cash Flow: [(4)a + (4)b + (4)c + (4)d]	$ (1,127,446,066)
(5)	Investment Income		
	a.	Market total: (2) – (3) – (4)e	$ 343,320,577
	b.	Assumed Rate	7.50%
	c.	Amount of Immediate Recognition [(3) x (5)b] + [(4)e x (5)b x 0.5]	$ 1,671,189,478
	d.	Amount for Phased-in Recognition: (5)a – (5)c	$ (1,327,868,901)
(6)	Phased-In Recognition of Investment Income		
	a.	Current Year: 0.25 x (5)d	$ (331,967,225)
	b.	First Prior Year	(97,053,617)
	c.	Second Prior Year	380,471,375
	d.	Third Prior Year	233,111,082
	e.	Total Recognized Investment Gain	$ 184,561,615
(7)	Actuarial Value End of Year: (1) + (4)e + (5)c + (6)e		$ 22,871,661,446

Schedule B – Development of the Actuarial Value of Assets (continued)

DEVELOPMENT OF THE DECEMBER 31, 2015
ACTUARIAL VALUE OF ASSETS

LOCAL GOVERNMENT DIVISION

(1)	Actuarial Value Beginning of Year		$	3,629,400,231
(2)	Market Value End of Year		$	3,639,914,028
(3)	Market Value Beginning of Year		$	3,733,495,817
(4)	Cash Flow			
	a.	Contributions	$	119,877,779
	b.	Benefit Payments		(267,449,300)
	c.	Administrative Expenses		(2,252,600)
	d.	Net Transfers		83,781
	e.	Net Cash Flow: [(4)a + (4)b + (4)c + (4)d]	$	(149,740,340)
(5)	Investment Income			
	a.	Market total: (2) – (3) – (4)e	$	56,158,551
	b.	Assumed Rate		7.50%
	c.	Amount of Immediate Recognition [(3) x (5)b] + [(4)e x (5)b x 0.5]	$	274,396,924
	d.	Amount for Phased-in Recognition: (5)a – (5)c	$	(218,238,373)
(6)	Phased-In Recognition of Investment Income			
	a.	Current Year: 0.25 x (5)d	$	(54,559,593)
	b.	First Prior Year		(16,002,089)
	c.	Second Prior Year		58,436,107
	d.	Third Prior Year		35,229,636
	e.	Total Recognized Investment Gain	$	23,104,061
(7)	Actuarial Value End of Year: (1) + (4)e + (5)c + (6)e		$	3,777,160,876

DEVELOPMENT OF THE DECEMBER 31, 2015
ACTUARIAL VALUE OF ASSETS

JUDICIAL DIVISION

(1)	Actuarial Value Beginning of Year		$	270,866,145
(2)	Market Value End of Year		$	276,563,143
(3)	Market Value Beginning of Year		$	278,860,041
(4)	Cash Flow			
	a.	Contributions	$	11,755,948
	b.	Benefit Payments		(21,365,942)
	c.	Administrative Expenses		(77,178)
	d.	Net Transfers		3,247,424
	e.	Net Cash Flow: [(4)a + (4)b + (4)c + (4)d]	$	(6,439,748)
(5)	Investment Income			
	a.	Market total: (2) – (3) – (4)e	$	4,142,850
	b.	Assumed Rate		7.50%
	c.	Amount of Immediate Recognition [(3) x (5)b] + [(4)e x (5)b x 0.5]	$	20,673,013
	d.	Amount for Phased-in Recognition: (5)a – (5)c	$	(16,530,163)
(6)	Phased-In Recognition of Investment Income			
	a.	Current Year: 0.25 x (5)d	$	(4,132,541)
	b.	First Prior Year		(1,204,938)
	c.	Second Prior Year		4,479,748
	d.	Third Prior Year		2,649,219
	e.	Total Recognized Investment Gain	$	1,791,488
(7)	Actuarial Value End of Year: (1) + (4)e + (5)c + (6)e		$	286,890,898

DEVELOPMENT OF THE DECEMBER 31, 2015
ACTUARIAL VALUE OF ASSETS

DENVER PUBLIC SCHOOLS DIVISION

(1)	Actuarial Value Beginning of Year		$	3,151,455,921
(2)	Market Value End of Year		$	3,094,338,946
(3)	Market Value Beginning of Year		$	3,254,063,981
(4)	Cash Flow			
	a.	Contributions	$	58,861,993
	b.	Benefit Payments		(265,098,162)
	c.	Administrative Expenses		(2,599,429)
	d.	Net Transfers		14,017
	e.	Net Cash Flow: [(4)a + (4)b + (4)c + (4)d]	$	(208,821,581)
(5)	Investment Income			
	a.	Market total: (2) – (3) – (4)e	$	49,096,546
	b.	Assumed Rate		7.50%
	c.	Amount of Immediate Recognition [(3) x (5)b] + [(4)e x (5)b x 0.5]	$	236,223,989
	d.	Amount for Phased-in Recognition: (5)a – (5)c	$	(187,127,443)
(6)	Phased-In Recognition of Investment Income			
	a.	Current Year: 0.25 x (5)d	$	(46,781,861)
	b.	First Prior Year		(13,813,961)
	c.	Second Prior Year		54,985,495
	d.	Third Prior Year		34,078,954
	e.	Total Recognized Investment Gain	$	28,468,627
(7)	Actuarial Value End of Year: (1) + (4)e + (5)c + (6)e		$	3,207,326,956

Schedule B – Development of the Actuarial Value of Assets (continued)

DEVELOPMENT OF THE DECEMBER 31, 2015
ACTUARIAL VALUE OF ASSETS

PERA HEALTH CARE TRUST FUND

(1)	Actuarial Value Beginning of Year		$	297,376,975
(2)	Market Value End of Year		$	276,504,907
(3)	Market Value Beginning of Year		$	309,637,855
(4)	Cash Flow			
	a.	Contributions	$	213,899,913
	b.	Benefit Payments		(234,414,642)
	c.	Other Income and Expenses		2,427,967
	d.	Administrative Expenses		(19,855,134)
	e.	Net Cash Flow: [(4)a + (4)b + (4)c + (4)d]	$	(37,941,896)
(5)	Investment Income			
	a.	Market total: (2) – (3) – (4)e	$	4,808,948
	b.	Assumed Rate		7.50%
	c.	Amount of Immediate Recognition [(3) x (5)b] + [(4)e x (5)b x 0.5]	$	21,800,018
	d.	Amount for Phased-in Recognition: (5)a – (5)c	$	(16,991,070)
(6)	Phased-In Recognition of Investment Income			
	a.	Current Year: 0.25 x (5)d	$	(4,247,768)
	b.	First Prior Year		(1,131,023)
	c.	Second Prior Year		5,922,142
	d.	Third Prior Year		3,809,666
	e.	Total Recognized Investment Gain	$	4,353,017
(7)	Actuarial Value End of Year: (1) + (4)e + (5)c + (6)e		$	285,588,114

DEVELOPMENT OF THE DECEMBER 31, 2015
ACTUARIAL VALUE OF ASSETS

DPS HEALTH CARE TRUST FUND

(1)	Actuarial Value Beginning of Year		$	16,501,777
(2)	Market Value End of Year		$	16,935,520
(3)	Market Value Beginning of Year		$	17,020,938
(4)	Cash Flow			
	a.	Contributions	$	12,767,471
	b.	Benefit Payments		(12,441,823)
	c.	Other Income and Expenses		179,916
	d.	Administrative Expenses		(844,687)
	e.	Net Cash Flow: [(4)a + (4)b + (4)c + (4)d]	$	(339,123)
(5)	Investment Income			
	a.	Market total: (2) – (3) – (4)e	$	253,705
	b.	Assumed Rate		7.50%
	c.	Amount of Immediate Recognition [(3) x (5)b] + [(4)e x (5)b x 0.5]	$	1,263,853
	d.	Amount for Phased-in Recognition: (5)a – (5)c	$	(1,010,148)
(6)	Phased-In Recognition of Investment Income			
	a.	Current Year: 0.25 x (5)d	$	(252,537)
	b.	First Prior Year		(71,484)
	c.	Second Prior Year		278,930
	d.	Third Prior Year		175,752
	e.	Total Recognized Investment Gain	$	130,661
(7)	Actuarial Value End of Year: (1) + (4)e + (5)c + (6)e		$	17,557,168

SUMMARY OF CHANGES IN NET ASSETS
FOR THE YEAR ENDING DECEMBER 31, 2015

STATE DIVISION

Additions for the Year		
Contributions:		
Members (including purchased service)	$ 244,882,072	
Employers	472,605,238	
Total		$ 717,487,310
Net Investment Income		209,807,786
TOTAL		$ 927,295,096
Deductions for the Year		
Benefit Payments (including refunds and disability insurance)	$ 1,483,516,995	
Transfers	(5,175,493)	
Other deductions	3,407,078	
Administrative Expenses	10,778,521	
TOTAL		$ 1,492,527,101
Excess of Additions Over Deductions		$ (565,232,005)
Reconciliation of Asset Balances		
Market Value of Assets as of 12/31/2014		$ 13,956,630,097
Excess of Additions over Deductions		(565,232,005)
Market Value of Assets as of 12/31/2015*		$ 13,391,398,092

* The Market Value of Assets shown above is used in the determination of the Actuarial Value of Assets (Schedule B). Final Market Value of Assets is $13,460,535,667 and includes the amount in the Annual Increase Reserve of $69,137,575 for post-retirement benefit increases for members of the PERA Benefit Structure hired on or after January 1, 2007.

SUMMARY OF CHANGES IN NET ASSETS
FOR THE YEAR ENDING DECEMBER 31, 2015

SCHOOL DIVISION

Additions for the Year		
Contributions:		
Members (including purchased service)	$ 372,323,514	
Employers	738,533,745	
Total		$ 1,110,857,259
Net Investment Income		343,320,577
TOTAL		$ 1,454,177,836
Deductions for the Year		
Benefit Payments (including refunds and disability insurance)	$ 2,208,451,530	
Transfers	(191,789)	
Other deductions	9,178,212	
Administrative Expenses	20,865,372	
TOTAL		$ 2,238,303,325
Excess of Additions Over Deductions		$ (784,125,489)
Reconciliation of Asset Balances		
Market Value of Assets as of 12/31/2014		$ 22,846,249,402
Excess of Additions over Deductions		(784,125,489)
Market Value of Assets as of 12/31/2015*		$ 22,062,123,913

* The Market Value of Assets shown above is used in the determination of the Actuarial Value of Assets (Schedule B). Final Market Value of Assets is $22,152,768,035 and includes the amount in the Annual Increase Reserve of $90,644,122 for post-retirement benefit increases for members of the PERA Benefit Structure hired on or after January 1, 2007.

SUMMARY OF CHANGES IN NET ASSETS
FOR THE YEAR ENDING DECEMBER 31, 2015

LOCAL GOVERNMENT DIVISION

Additions for the Year		
Contributions:		
Members (including purchased service)	$ 51,984,039	
Employers	67,893,740	
Total		$ 119,877,779
Net Investment Income		56,158,551
TOTAL		$ 176,036,330
Deductions for the Year		
Benefit Payments (including refunds and disability insurance)	$ 265,788,762	
Transfers	(83,781)	
Other deductions	1,660,538	
Administrative Expenses	2,252,600	
TOTAL		$ 269,618,119
Excess of Additions Over Deductions		$ (93,581,789)
Reconciliation of Asset Balances		
Market Value of Assets as of 12/31/2014		$ 3,733,495,817
Excess of Additions over Deductions		(93,581,789)
Market Value of Assets as of 12/31/2015*		$ 3,639,914,028

* The Market Value of Assets shown above is used in the determination of the Actuarial Value of Assets (Schedule B). Final Market Value of Assets is $3,660,508,621 and includes the amount in the Annual Increase Reserve of $20,594,593 for post-retirement benefit increases for members of the PERA Benefit Structure hired on or after January 1, 2007.

SUMMARY OF CHANGES IN NET ASSETS
FOR THE YEAR ENDING DECEMBER 31, 2015

JUDICIAL DIVISION

Additions for the Year		
Contributions:		
Members (including purchase service)	$ 4,194,296	
Employers	7,561,652	
Total		$ 11,755,948
Net Investment Income		4,142,850
TOTAL		$ 15,898,798
Deductions for the Year		
Benefit Payments (including refunds and disability insurance)	$ 21,199,738	
Transfers	(3,247,424)	
Other deductions	166,204	
Administrative Expenses	77,178	
TOTAL		$ 18,195,696
Excess of Additions Over Deductions		$ (2,296,898)
Reconciliation of Asset Balances		
Market Value of Assets as of 12/31/2014		$ 278,860,041
Excess of Additions over Deductions		(2,296,898)
Market Value of Assets as of 12/31/2015*		$ 276,563,143

* The Market Value of Assets shown above is used in the determination of the Actuarial Value of Assets (Schedule B). Final Market Value of Assets is $277,350,590 and includes the amount in the Annual Increase Reserve of $787,447 for post-retirement benefit increases for members of the PERA Benefit Structure hired on or after January 1, 2007.

SUMMARY OF CHANGES IN NET ASSETS
FOR THE YEAR ENDING DECEMBER 31, 2015

DENVER PUBLIC SCHOOLS DIVISION

Additions for the Year		
Contributions:		
Members (including purchase service)	$ 53,554,302	
Employers	5,307,691	
Total		$ 58,861,993
Net Investment Income		49,096,546
TOTAL		$ 107,958,539
Deductions for the Year		
Benefit Payments (including refunds and disability insurance)	$ 263,323,585	
Transfers	(14,017)	
Other deductions	1,774,577	
Administrative Expenses	2,599,429	
TOTAL		$ 267,683,574
Excess of Additions Over Deductions		$ (159,725,035)
Reconciliation of Asset Balances		
Market Value of Assets as of 12/31/2014		$ 3,254,063,981
Excess of Additions over Deductions		(159,725,035)
Market Value of Assets as of 12/31/2015*		$ 3,094,338,946

* The Market Value of Assets shown above is used in the determination of the Actuarial Value of Assets (Schedule B). Final Market Value of Assets is $3,107,329,080 and includes the amount in the Annual Increase Reserve of $12,990,134 for post-retirement benefit increases for those who became members of the PERA Benefit Structure on or after January 1, 2010.

SUMMARY OF CHANGES IN NET ASSETS
FOR THE YEAR ENDING DECEMBER 31, 2015

PERA HEALTH CARE TRUST FUND

Additions for the Year		
Contributions:		
Members' Purchased Service Transfer	$ 7,564,574	
Employers	78,462,738	
Retiree Health Care Premiums	127,872,601	
Total		$ 213,899,913
Net Investment Income		4,808,948
TOTAL		$ 218,708,861
Deductions for the Year		
Benefit Payments	$ 234,414,642	
Other Income and Expenses	(2,427,967)	
Administrative Expenses	19,855,134	
TOTAL		$ 251,841,809
Excess of Additions Over Deductions		$ (33,132,948)
Reconciliation of Asset Balances		
Market Value of Assets as of 12/31/2014		$ 309,637,855
Excess of Additions over Deductions		(33,132,948)
Market Value of Assets as of 12/31/2015		$ 276,504,907

SUMMARY OF CHANGES IN NET ASSETS
FOR THE YEAR ENDING DECEMBER 31, 2015

DPS HEALTH CARE TRUST FUND

Additions for the Year		
Contributions:		
Members' Purchased Service Transfer	$ 121,318	
Employers	6,370,903	
Retiree Health Care Premiums	6,275,250	
Total		$ 12,767,471
Net Investment Income		253,705
TOTAL		$ 13,021,176
Deductions for the Year		
Benefit Payments	$ 12,441,823	
Other Income and Expenses	(179,916)	
Administrative Expenses	844,687	
TOTAL		$ 13,106,594
Excess of Additions Over Deductions		$ (85,418)
Reconciliation of Asset Balances		
Market Value of Assets as of 12/31/2014		$ 17,020,938
Excess of Additions over Deductions		(85,418)
Market Value of Assets as of 12/31/2015		$ 16,935,520

UAAL AMORTIZATION SCHEDULE
STATE DIVISION
($ IN THOUSANDS)

Description	Original Balance	Outstanding Balance as of 12/31/2014	1/1/2015 Amortization Payment	Outstanding Balance as of 12/31/2015	1/1/2016 Amortization Payment	Amortization Period as of 12/31/2015
December 31, 2014 Legacy UAAL	$9,884,833	$9,884,833	$520,933	$10,086,082	$543,423	29 Years
December 31, 2015 Contribution Deficiency	116,762	N/A	N/A	116,762	6,460	29 Years
December 31, 2015 UAAL Base*	7	N/A	N/A	7	0	30 Years
Total		**$9,884,833**	**$520,933**	**$10,202,851**	**$549,883**	
Projected Payroll			**$2,691,657**		**$2,773,139**	
Total as a Percentage of Projected Payroll			**19.35%**		**19.83%**	

* The 1/1/2016 amortization payment rounds to zero.

According to the Funding Policy, each year the Contribution Deficiency/(Surplus) will increase (or decrease) the existing Legacy UAAL as of December 31, 2014 and will amortized by the remaining period of the initial 30-year period from the date of the valuation.

The UAAL for the State Division reflects an adjustment for the impact of AED and SAED contributions received from employers on the estimated pensionable payroll of employees electing to participate in the defined contribution plan.

Schedule D – UAAL Amortization Schedules (continued)

UAAL AMORTIZATION SCHEDULE
SCHOOL DIVISION
($ IN THOUSANDS)

Description	Original Balance	Outstanding Balance as of 12/31/2014	1/1/2015 Amortization Payment	Outstanding Balance as of 12/31/2015	1/1/2016 Amortization Payment	Amortization Period as of 12/31/2015
December 31, 2014 Legacy UAAL	$14,243,176	$14,243,176	$772,635	$14,510,329	$802,768	29 Years
December 31, 2015 Contribution Deficiency	187,761	N/A	N/A	187,761	10,388	29 Years
December 31, 2015 UAAL Base	107,402	N/A	N/A	107,402	5,826	30 Years
Total		**$14,243,176**	**$772,635**	**$14,805,492**	**$818,982**	
Projected Payroll			**$4,285,027**		**$4,466,391**	
Total as a Percentage of Projected Payroll			**18.03%**		**18.34%**	

According to the Funding Policy, each year the Contribution Deficiency/(Surplus) will increase (or decrease) the existing Legacy UAAL as of December 31, 2014 and will be amortized by the remaining period of the initial 30-year period from the date of the valuation.

UAAL AMORTIZATION SCHEDULE
LOCAL GOVERNMENT DIVISION
($ IN THOUSANDS)

Description	Original Balance	Outstanding Balance as of 12/31/2014	1/1/2015 Amortization Payment	Outstanding Balance as of 12/31/2015	1/1/2016 Amortization Payment	Amortization Period as of 12/31/2015
December 31, 2014 Legacy UAAL	$981,567	$981,567	$53,246	$999,978	$55,323	29 Years
December 31, 2015 Contribution Deficiency	8,412	N/A	N/A	8,412	465	29 Years
December 31, 2015 UAAL Base	(4,853)	N/A	N/A	(4,853)	(263)	30 Years
Total		**$981,567**	**$53,246**	**$1,003,537**	**$55,525**	
Projected Payroll			**$567,958**		**$590,171**	
Total as a Percentage of Projected Payroll			**9.38%**		**9.41%**	

According to the Funding Policy, each year the Contribution Deficiency/(Surplus) will increase (or decrease) the existing Legacy UAAL as of December 31, 2014 and will amortized by the remaining period of the initial 30-year period from the date of the valuation.

Schedule D – UAAL Amortization Schedules (continued)

UAAL AMORTIZATION SCHEDULE
JUDICIAL DIVISION
($ IN THOUSANDS)

Description	Original Balance	Outstanding Balance as of 12/31/2014	1/1/2015 Amortization Payment	Outstanding Balance as of 12/31/2015	1/1/2016 Amortization Payment	Amortization Period as of 12/31/2015
December 31, 2014 Legacy UAAL	$100,387	$100,387	$5,446	$102,270	$5,658	29 Years
December 31, 2015 Contribution Deficiency	2,562	N/A	N/A	2,562	142	29 Years
December 31, 2015 UAAL Base	10,243	N/A	N/A	10,243	556	30 Years
Total		**$100,387**	**$5,446**	**$115,075**	**$6,356**	
Projected Payroll			**$44,874**		**$48,939**	
Total as a Percentage of Projected Payroll			**12.14%**		**12.99%**	

According to the Funding Policy, each year the Contribution Deficiency/(Surplus) will increase (or decrease) the existing Legacy UAAL as of December 31, 2014 and will amortized by the remaining period of the initial 30-year period from the date of the valuation.

UAAL AMORTIZATION SCHEDULE
DENVER PUBLIC SCHOOLS DIVISION
($ IN THOUSANDS)

Description	Original Balance	Outstanding Balance as of 12/31/2014	1/1/2015 Amortization Payment	Outstanding Balance as of 12/31/2015	1/1/2016 Amortization Payment	Amortization Period as of 12/31/2015
December 31, 2014 Legacy UAAL	$664,637	$664,637	$36,054	$677,103	$37,460	29 Years
December 31, 2015 Contribution Deficiency	65,469	N/A	N/A	65,469	3,622	29 Years
December 31, 2015 UAAL Base	(44,659)	N/A	N/A	(44,659)	(2,423)	30 Years
Total		**$664,637**	**$36,054**	**$697,913**	**$38,659**	
Projected Payroll			**$618,511**		**$657,812**	
Total as a Percentage of Projected Payroll			**5.83%**		**5.88%**	

According to the Funding Policy, each year the Contribution Deficiency/(Surplus) will increase (or decrease) the existing Legacy UAAL as of December 31, 2014 and will amortized by the remaining period of the initial 30-year period from the date of the valuation.

Schedule E – Outline of Actuarial Assumptions and Methods

INVESTMENT RATE OF RETURN: 7.50% per annum, compounded annually (net of investment expenses only).

PRICE INFLATION ASSUMPTION: 2.80% per year.

WAGE INFLATION ASSUMPTION: 3.90% per year.

PERCENT MARRIED: 100% of active members (80% of Denver Public Schools Division) are assumed to be married, with the wife 2 years younger than the husband.

ACTUARIAL METHOD: Entry age normal cost method. Actuarial gains and losses are reflected in the unfunded actuarial accrued liability. See Schedule E for a detailed explanation.

ASSETS: The method of valuing assets is intended to recognize a "smoothed" market value of assets. Under this method, the difference between actual return on market value from investment experience and the expected return on market value is recognized over a four-year period.

INTEREST CREDIT: 3.00% per annum on member contribution account balances.

POST-RETIREMENT BENEFIT INCREASES: 2.00% per year for members of the DPS Benefit Structure or members of the PERA Benefit Structure with membership prior to 1/1/07; Members of the PERA Benefit Structure with membership after 12/31/06 paid from the AIR. In the determination of the Actuarially Determined Contribution rate, as a percentage of payroll, the AIR balance is excluded from both assets and liabilities.

WITHDRAWAL ASSUMPTION: It was assumed that 35% of the vested members who terminate elect to withdraw their contributions and matching employer contributions while the remaining 65% elect to leave their contributions in the plan in order to be eligible for a benefit at their retirement date. The only exception to this is the Judicial Division, which assumes 100% elect to leave their contributions in the plan in order to be eligible for a benefit at their retirement date. Current active members assumed to terminate service and leave their contributions in the plan in order to be eligible for a benefit at their retirement date are assumed to retire with a reduced benefit, if applicable, at an age based upon benefit structure, division, and/or service as shown in the following table:

Assumed Age of Initial Benefit Receipt	Benefit Structure, Division, and/or Service
50	PERA Benefit Structure Members (excluding Troopers) with 25 or More Years of Service
50	Troopers with 20 or More Years of Service
55	PERA Benefit Structure Members (excluding Troopers) with 20–25 Years of Service
60	PERA Benefit Structure Members with Less than 20 Years of Service
65	DPS Benefit Structure Members

Schedule E – Outline of Actuarial Assumptions and Methods (continued)

INACTIVE MEMBERS: It was assumed that 100% of inactive members who terminated employment with less than five years of service elect to withdraw their contributions. Current inactive members in the PERA Benefit Structure who are assumed to leave their contributions in the plan in order to be eligible for a benefit at their retirement date are assumed to retire at age 62 with an unreduced pension benefit. Current inactive members in the DPS Benefit Structure who are assumed to leave their contributions in the plan in order to be eligible for a benefit at their retirement date are assumed to retire at age 65 with an unreduced pension benefit. For PERACare subsidies, the assumed age of initial benefit receipt is determined using the same approach used for terminating active members.

DEATH AFTER RETIREMENT: The mortality table, for post-retirement healthy mortality, used in evaluating allowances to be paid is the RP-2000 Combined Mortality Table projected with Scale AA to 2020 (set back 1 year for males and set back 2 years for females). The RP-2000 Disabled Mortality Table (set back 2 years for males and set back 2 years for females) was used for the period after disability retirement. These assumptions are used to measure the probabilities of each benefit payment being made after retirement. Mortality improvement is anticipated under these assumption as recent mortality experience shows actual deaths 4-12% greater than expected under the selected tables.

STATE DIVISION
NON-TROOPERS

SALARY INCREASES: Representative values of the assumed annual rates of future salary increases are as follows and include wage inflation 3.90% per annum:

	Pay Increase Assumptions for an Individual Member		
Sample Ages	Merit & Seniority	Inflation & Productivity (Economy)	Total Increase (Next Year)
20	5.67%	3.90%	9.57%
25	3.75	3.90	7.65
30	2.80	3.90	6.70
35	2.05	3.90	5.95
40	1.50	3.90	5.40
45	0.85	3.90	4.75
50	0.50	3.90	4.40
55	0.10	3.90	4.00
60	0.00	3.90	3.90
65	0.00	3.90	3.90

SEPARATIONS FROM ACTIVE SERVICE: Representative values of the assumed annual rates of termination, death and disability are shown in the following tables:

	Percent of Members Separating Within the Next Year					
	Ultimate Termination		Death[1]		Disability	
Sample Ages	Males	Females	Males	Females	Males	Females
20	21.00%	18.00%	0.0124%	0.0054%	0.01%	0.01%
25	9.00	14.00	0.0169	0.0059	0.01	0.01
30	6.00	9.00	0.0205	0.0077	0.02	0.02
35	5.50	7.00	0.0349	0.0126	0.03	0.03
40	4.50	5.75	0.0478	0.0177	0.06	0.06
45	4.00	5.00	0.0591	0.0271	0.10	0.10
50	4.00	5.00	0.0763	0.0407	0.17	0.17
55	4.00	5.00	0.1198	0.0752	0.25	0.25
60	4.00	5.00	0.2368	0.1420	0.35	0.35
65	4.00	5.00	0.4680	0.2767	0.45	0.45

[1]Rates are shown for healthy members. Separate disability mortality tables are used for disabled retirees.

STATE DIVISION
NON-TROOPERS

The select termination assumptions for members with less than five years of service are shown in the following table:

Completed Years of Service	Males	Females
0	43.0%	43.0%
1	20.0	21.0
2	14.0	15.0
3	11.0	12.0
4	9.0	11.0

RETIREMENT: Representative values of the assumed annual rates of service retirement are shown in the following table:

Retirement Ages	Percent of Members Who Are Eligible for Reduced Benefits Retiring Next Year		Percent of Members Who Are Eligible for Unreduced Benefits Retiring Next Year	
	Males	Females	Males	Females
50	10%	10%	55%	50%
51	10	10	48	40
52	10	10	42	38
53	10	10	38	30
54	10	10	32	30
55	10	10	27	30
56	10	10	25	24
57	10	10	22	22
58	10	10	21	22
59	10	10	20	22
60	10	10	21	22
61	10	10	18	18
62	10	10	25	25
63	10	10	21	22
64	10	10	21	22
65	0	0	24	22
66	0	0	26	28
67	0	0	24	24
68	0	0	19	20
69	0	0	22	22
70 & over	0	0	100	100

STATE DIVISION
TROOPERS

SALARY INCREASES: Representative values of the assumed annual rates of future salary increases are as follows and include wage inflation at 3.90% per annum:

Sample Ages	Merit & Seniority	Pay Increase Assumptions for an Individual Member Inflation & Productivity (Economy)	Total Increase (Next Year)
20	5.50%	3.90%	9.40%
25	3.75	3.90	7.65
30	2.80	3.90	6.70
35	2.05	3.90	5.95
40	1.50	3.90	5.40
45	1.20	3.90	5.10
50	0.80	3.90	4.70
55	0.40	3.90	4.30
60	0.00	3.90	3.90
65	0.00	3.90	3.90

SEPARATIONS FROM ACTIVE SERVICE: Representative values of the assumed annual rates of termination, death and disability are shown in the following tables:

	Percent of Members Separating Within the Next Year					
	Ultimate Termination[1]		Death[2]		Disability	
Sample Ages	Males	Females	Males	Females	Males	Females
20	10.00%	10.00%	0.0124%	0.0054%	0.02%	0.02%
25	8.00	8.00	0.0169	0.0059	0.04	0.04
30	4.25	4.25	0.0205	0.0077	0.06	0.06
35	3.75	3.75	0.0349	0.0126	0.10	0.10
40	3.50	3.50	0.0478	0.0177	0.18	0.18
45	3.50	3.50	0.0591	0.0271	0.28	0.28
50	3.50	3.50	0.0763	0.0407	0.40	0.40
55	3.50	3.50	0.1198	0.0752	0.56	0.56
60	3.50	3.50	0.2368	0.1420	0.80	0.80
65	3.50	3.50	0.4680	0.2767	1.20	1.20

[1]There are no select termination assumptions for the State Troopers.

[2]Rates are shown for healthy members. Separate disability mortality tables are used for disabled retirees.

STATE DIVISION
TROOPERS

RETIREMENT: Representative values of the assumed annual rates of service retirement are shown in the following table:

Retirement Ages	Percent of Members Who Are Eligible for Reduced Benefits Retiring Next Year	Percent of Members Who Are Eligible for Unreduced Benefits Retiring Next Year
50	14%	45%
51	14	32
52	14	32
53	14	32
54	14	32
55	10	32
56	10	32
57	10	32
58	10	32
59	10	32
60	10	32
61	10	32
62	10	32
63	10	32
64	10	32
65 & over	0	100

SCHOOL DIVISION

SALARY INCREASES: Representative values of the assumed annual rates of future salary increases are as follows and include wage inflation at 3.90% per annum:

Sample Ages	Pay Increase Assumptions for an Individual Member: Merit & Seniority	Inflation & Productivity (Economy)	Total Increase (Next Year)
20	6.20%	3.90%	10.10%
25	4.10	3.90	8.00
30	2.95	3.90	6.85
35	2.50	3.90	6.40
40	1.95	3.90	5.85
45	1.35	3.90	5.25
50	0.80	3.90	4.70
55	0.35	3.90	4.25
60	0.00	3.90	3.90
65	0.00	3.90	3.90

SEPARATIONS FROM ACTIVE SERVICE: Representative values of the assumed annual rates of termination, death and disability are shown in the following tables:

	Percent of Members Separating Within the Next Year					
	Ultimate Termination		Death[1]		Disability	
Sample Ages	Males	Females	Males	Females	Males	Females
20	12.00%	14.50%	0.0124%	0.0054%	0.01%	0.01%
25	9.00	11.00	0.0169	0.0059	0.01	0.01
30	5.50	7.50	0.0205	0.0077	0.01	0.01
35	4.25	6.25	0.0349	0.0126	0.02	0.02
40	4.00	4.50	0.0478	0.0177	0.04	0.04
45	4.00	4.50	0.0591	0.0271	0.06	0.06
50	4.00	4.50	0.0763	0.0407	0.09	0.09
55	4.00	4.50	0.1198	0.0752	0.15	0.15
60	4.00	4.50	0.2368	0.1420	0.22	0.22
65	4.00	4.50	0.4680	0.2767	0.32	0.32

[1]Rates are shown for healthy members. Separate disability mortality tables are used for disabled retirees.

SCHOOL DIVISION

The select termination assumptions for members with less than five years of service are shown in the following table:

Completed Years of Service	Males	Females
0	38.0%	35.0%
1	20.0	19.0
2	15.0	14.5
3	11.0	11.5
4	10.0	10.0

RETIREMENT: Representative values of the assumed annual rates of service retirement are shown in the following table:

Retirement Ages	Percent of Members Who Are Eligible for Reduced Benefits Retiring Next Year		Percent of Members Who Are Eligible for Unreduced Benefits Retiring Next Year	
	Males	Females	Males	Females
50	10%	10%	55%	55%
51	10	10	46	50
52	10	10	44	42
53	10	10	42	40
54	10	10	40	38
55	10	10	28	30
56	10	10	26	27
57	10	10	25	25
58	10	10	26	24
59	10	10	26	24
60	10	10	26	25
61	10	10	28	26
62	10	10	25	28
63	10	10	25	28
64	10	10	27	30
65	0	0	27	27
66	0	0	28	28
67	0	0	23	23
68	0	0	19	19
69	0	0	20	20
70 & over	0	0	100	100

LOCAL GOVERNMENT DIVISION

SALARY INCREASES: Representative values of the assumed annual rates of future salary increases are as follows and include wage inflation at 3.90% per annum:

Sample Ages	Pay Increase Assumptions for an Individual Member: Merit & Seniority	Inflation & Productivity (Economy)	Total Increase (Next Year)
20	6.95%	3.90%	10.85%
25	4.30	3.90	8.20
30	2.64	3.90	6.54
35	1.72	3.90	5.62
40	1.23	3.90	5.13
45	0.99	3.90	4.89
50	0.79	3.90	4.69
55	0.60	3.90	4.50
60	0.25	3.90	4.15
65	0.00	3.90	3.90

SEPARATIONS FROM ACTIVE SERVICE: Representative values of the assumed annual rates of termination, death and disability are shown in the following tables:

	Percent of Members Separating Within the Next Year					
	Ultimate Termination		Death[1]		Disability	
Sample Ages	Males	Females	Males	Females	Males	Females
20	12.00%	20.00%	0.0124%	0.0054%	0.01%	0.01%
25	10.00	15.00	0.0169	0.0059	0.01	0.01
30	7.25	11.00	0.0205	0.0077	0.01	0.01
35	5.50	8.75	0.0349	0.0126	0.02	0.02
40	5.00	6.25	0.0478	0.0177	0.04	0.04
45	4.50	6.00	0.0591	0.0271	0.08	0.08
50	4.50	6.00	0.0763	0.0407	0.14	0.14
55	4.50	6.00	0.1198	0.0752	0.18	0.18
60	4.50	6.00	0.2368	0.1420	0.24	0.24
65	4.50	6.00	0.4680	0.2767	0.30	0.30

[1]Rates are shown for healthy members. Separate disability mortality tables are used for disabled retirees.

LOCAL GOVERNMENT DIVISION

The select termination assumptions for members with less than five years of service are shown in the following table:

Completed Years of Service	Males	Females
0	40.0%	38.0%
1	22.0	22.0
2	15.0	17.0
3	11.5	13.0
4	9.0	11.0

RETIREMENT: Representative values of the assumed annual rates of service retirement are shown in the following table:

	Percent of Members Who Are Eligible for Reduced Benefits Retiring Next Year		Percent of Members Who Are Eligible for Unreduced Benefits Retiring Next Year	
Retirement Ages	Males	Females	Males	Females
50	10%	12%	60%	60%
51	10	12	45	50
52	10	12	35	45
53	10	12	32	42
54	10	12	30	35
55	10	12	30	33
56	10	12	25	25
57	10	12	25	22
58	10	12	20	22
59	10	12	20	25
60	10	12	25	22
61	10	12	25	20
62	10	12	22	24
63	10	12	22	24
64	10	12	28	25
65	0	0	28	25
66	0	0	28	25
67	0	0	18	25
68	0	0	25	12
69	0	0	27	20
70 & over	0	0	100	100

Schedule E – Outline of Actuarial Assumptions and Methods (continued)

JUDICIAL DIVISION

SALARY INCREASES: Representative values of the assumed annual rates of future salary increases are as follows and include wage inflation at 3.90% per annum:

	Pay Increase Assumptions for an Individual Member		
Sample Ages	**Merit & Seniority**	**Inflation & Productivity (Economy)**	**Total Increase (Next Year)**
30	1.50%	3.90%	5.40%
35	1.50	3.90	5.40
40	0.67	3.90	4.57
45	0.50	3.90	4.40
50	0.50	3.90	4.40
55	0.50	3.90	4.40
60	0.50	3.90	4.40
65	0.50	3.90	4.40

SEPARATIONS FROM ACTIVE SERVICE: Representative values of the assumed annual rates of termination, death and disability are shown in the following tables:

	Percent of Members Separating Within the Next Year					
	Ultimate Termination[1]		**Death[2]**		**Disability**	
Sample Ages	**Males**	**Females**	**Males**	**Females**	**Males**	**Females**
30	1.80%	1.80%	0.0205%	0.0077%	0.02%	0.02%
35	1.80	1.80	0.0349	0.0126	0.03	0.03
40	1.80	1.80	0.0478	0.0177	0.06	0.06
45	1.80	1.80	0.0591	0.0271	0.10	0.10
50	1.80	1.80	0.0763	0.0407	0.17	0.17
55	1.80	1.80	0.1198	0.0752	0.25	0.25
60	1.80	1.80	0.2368	0.1420	0.35	0.35
65	1.80	1.80	0.4680	0.2767	0.45	0.45

[1]There are no select termination assumptions for the Judicial Division.

[2]Rates are shown for healthy members. Separate disability mortality tables are used for disabled retirees.

JUDICIAL DIVISION

RETIREMENT: Representative values of the assumed annual rates of service retirement are shown in the following table:

Retirement Ages	Percent of Members Who Are Eligible for Reduced Benefits Retiring Next Year	Percent of Members Who Are Eligible for Unreduced Benefits Retiring Next Year
50	5%	5%
51	5	5
52	5	5
53	5	5
54	5	5
55	5	5
56	5	5
57	5	5
58	5	5
59	5	5
60	12	12
61	12	12
62	12	12
63	12	12
64	12	12
65	0	12
66	0	12
67	0	12
68	0	12
69	0	12
70 & over	0	100

ALL DIVISIONS (DPS BENEFIT STRUCTURE)

SALARY INCREASES: Representative values of the assumed annual rates of future salary increases are as follows and include wage inflation at 3.90% per annum:

	Pay Increase Assumptions for an Individual Member		
Sample Ages	Merit & Seniority	Inflation & Productivity (Economy)	Total Increase (Next Year)
20	3.50%	3.90%	7.40%
25	3.50	3.90	7.40
30	3.20	3.90	7.10
35	2.76	3.90	6.66
40	2.12	3.90	6.02
45	1.34	3.90	5.24
50	0.80	3.90	4.70
55	0.42	3.90	4.32
60	0.20	3.90	4.10
65	0.00	3.90	3.90

SEPARATIONS FROM ACTIVE SERVICE: Representative values of the assumed annual rates of termination, death and disability are shown in the following tables:

	Percent of Members Separating Within the Next Year					
	Ultimate Termination		Death[1]		Disability	
Sample Ages	Males	Females	Males	Females	Males	Females
20	7.00%	10.00%	0.0124%	0.0054%	0.01%	0.01%
25	7.00	10.00	0.0169	0.0059	0.01	0.01
30	6.00	8.00	0.0205	0.0077	0.01	0.01
35	6.00	7.00	0.0349	0.0126	0.02	0.02
40	4.50	5.75	0.0478	0.0177	0.05	0.05
45	3.50	4.25	0.0591	0.0271	0.08	0.08
50	3.50	3.50	0.0763	0.0407	0.12	0.12
55	3.50	3.50	0.1198	0.0752	0.25	0.25
60	3.50	3.50	0.2368	0.1420	0.40	0.40
65	3.50	3.50	0.4680	0.2767	0.60	0.60

[1]Rates are shown for healthy members. Separate disability mortality tables are used for disabled retirees.

ALL DIVISIONS (DPS BENEFIT STRUCTURE)

The select termination assumptions for members with less than five years of service are shown in the following table:

Completed Years of Service	Males	Females
0	22.0%	23.0%
1	20.0	20.0
2	17.0	16.0
3	13.0	12.0
4	10.0	9.0

RETIREMENT: Representative values of the assumed annual rates of service retirement are shown in the following table:

Retirement Ages	Percent of Members Who Are Eligible for Reduced Benefits Retiring Next Year		Percent of Members Who Are Eligible for Unreduced Benefits Retiring Next Year	
	Males	Females	Males	Females
50	10%	5%	30%	30%
51	10	5	30	30
52	10	5	30	30
53	10	5	30	30
54	10	5	30	30
55	10	5	30	25
56	10	5	20	25
57	10	5	20	20
58	11	9	20	20
59	12	9	20	20
60	13	9	20	22
61	14	9	20	30
62	15	9	30	25
63	15	9	35	25
64	15	15	25	25
65	0	0	25	30
66	0	0	30	25
67	0	0	25	30
68	0	0	30	30
69	0	0	30	20
70 & over	0	0	100	100

SINGLE LIFE RETIREMENT VALUES AND RATES OF POST-RETIREMENT MORTALITY

	Present Value of $1.00 Monthly for Life		Present Value of $1.00 Monthly Increasing 2.0% Annually		Future Life Expectancy (Years)	
Sample Ages	**Males**	**Females**	**Males**	**Females**	**Males**	**Females**
40	$155.90	$157.66	$200.67	$204.32	43.24	46.22
45	152.14	154.30	193.19	197.49	38.43	41.34
50	146.95	149.70	183.71	188.89	33.65	36.49
55	139.83	143.51	171.74	178.17	28.91	31.71
60	130.59	135.53	157.29	165.29	24.30	27.07
65	119.22	125.64	140.61	150.30	19.94	22.65
70	105.96	114.14	122.21	133.77	15.92	18.56
75	90.31	100.84	101.78	115.65	12.20	14.80
80	73.19	85.83	80.63	96.30	8.95	11.39
85	56.61	69.49	61.07	76.32	6.32	8.40

	Rates of Post-Retirement Mortality	
Sample Ages	**Males**	**Females**
40	0.087%	0.044%
45	0.108	0.068
50	0.139	0.102
55	0.218	0.188
60	0.431	0.355
65	0.851	0.692
70	1.464	1.216
75	2.557	1.956
80	4.738	3.267
85	8.670	5.542

METHODS AND ASSUMPTIONS SPECIFIC TO THE PERA DIVISIONS, THE PERA BENEFIT STRUCTURE, AND THE PERA HEALTH CARE TRUST FUND

PERA Divisions Health Care Participation Rates

Current PERACare participants of the State, School (other than Denver Public Schools), Local Government, and the Judicial Divisions, are assumed to maintain their current health care benefit elections in perpetuity. For active members retiring directly from the State, School (other than Denver Public Schools), Local Government, and the Judicial Divisions, the following participation rates are assumed:

Attained Age(s)	Percent Electing Health Care Coverage
15-48	25%
49	30%
50-51	35%
52-53	40%
54-56	45%
57-58	50%
59-64	55%
65-73	60%
74+	65%

The participation of current PERACare enrollees and members retiring directly from active service is adjusted to reflect the increasing rate of participation with age, as described in the above table.

For eligible inactive members of the State, School (other than Denver Public Schools), Local Government, or the Judicial Divisions, 25% are assumed to elect health care coverage upon commencement of their monthly pension benefit.

For spousal participation, actual census data and current plan elections of current benefit recipients were used. For spouses of eligible inactive members and future retirees of the State, School (other than Denver Public Schools), Local Government, or the Judicial Divisions, 25% are assumed to elect coverage for their spouse. For current and future retirees, 70% are assumed to elect a joint and survivor benefit payment form. The age difference between covered male and female spouses is assumed to be 2 years.

PERA Benefit Structure Assumptions Specific to the "No Part A" Subsidy

Under Colorado Revised Statute 24-51-1206(4), the premiums charged to a PERACare enrollee who is age sixty-five or older and who is not eligible for premium-free benefits under Medicare Part A shall be no greater than the premium charged to a PERACare enrollee eligible for premium-free benefits under Medicare Part A with the same plan option, coverage level, and service credit. As a result, an additional, "No Part A" subsidy is paid under the PERA Benefit Structure on behalf of those PERACare enrollees who are age sixty-five or older and are not eligible for premium-free benefits under Medicare Part A.

For those current PERACare enrollees who are age 65 and older, the premium-free Medicare Part A eligibility status is provided by PERA and is assumed to be maintained in perpetuity. For current PERACare enrollees not yet age 65, hired prior to April 1, 1986, and not assumed eligible for premium-free Medicare Part A coverage through their spouse, and for those active employees hired prior to April 1, 1986, the following percentage of PERACare enrollees are assumed to not qualify for premium-free Medicare Part A benefits; thus qualifying for the "No Part A" subsidy from the PERA Benefit Structure:

Hire Age	Percent Qualifying for "No Part A" Subsidy
0-24	17%
25-29	11%
30+	4%

Of those PERACare enrollees assumed not qualify for premium-free Medicare Part A benefits and receive the "No Part A" subsidy from the PERA Benefit Structure, 10% are assumed to cover a spouse.

The qualifying assumptions are based upon the experience of current, Medicare eligible, PERACare enrollees. Date of hire and hire age are estimated based upon service and date of retirement for current benefit recipients, or service and the valuation date for active members. As a result, those who are re-employed or transfer to another PERA employer may have accumulated the required quarters of Medicare-covered employment.

95% of PERACare enrollees receiving health care benefits as a result of disability retirement are assumed to qualify for premium-free Medicare Part A. 100% of eligible inactive members enrolled in PERACare are assumed to obtain the 40 or more quarters of Medicare-covered employment required for premium-free Medicare Part A coverage as a result of their subsequent employment.

Currently, the additional plan costs or premiums associated with those PERACare enrollees not eligible for premium-free Medicare Part A coverage are less, in aggregate, than the costs of PERA paying the Medicare Part A premium on their behalf. However, future increases in the additional costs or premiums associated with PERACare enrollees not eligible for premium-free Medicare Part A coverage may, in aggregate, exceed the Medicare Part A premium. As a result, it is assumed PERA will make the decision to pay the Medicare Part A premium when more cost-effective to do so. In making the decision to pay the Medicare Part A premium, it is assumed PERA's decision will be based upon the level of additional plan costs, include the premium penalties associated with late enrollment in Medicare Part A, and be made when the additional cost, averaged across all plans, for all PERACare enrollees, exceeds the Medicare Part A premium. The valuation assumes this will occur in the year 2024.

PERA Benefit Structure Assumptions Specific to the "No Part A" Subsidy (continued)

The premium penalty associated with enrollment in Medicare Part A after initial eligibility is 10% of the Part A premium and is payable for a period that is twice as long as the delay in enrollment. For example, someone enrolling at age 70 would need to pay the premium penalty for 10 years, assuming initial eligibility at age 65.

PERA Benefit Structure Health Care Plan Election Rates

Medicare plan elections for future retirees of the State, School, Local Government, Judicial, and Denver Public Schools Divisions who are not eligible for premium-free Medicare Part A, are assumed as follows:

	Percent Electing Medicare Plan	
Medicare Plan	**Other Divisions**	**DPS Division**
Self-Funded Medicare Supplement Plans	60%	40%
Kaiser Permanente Medicare Advantage HMO	25%	35%
Rocky Mountain Health Plans Medicare HMO	10%	5%
UnitedHealthcare Medicare HMO	5%	20%

Medicare plan elections for current, Pre-Medicare retirees of the State, School, Local Government, Judicial, and Denver Public Schools Divisions who are not eligible for premium-free Medicare Part A, are assumed as follows:

	Percent Electing Medicare Plan	
Medicare Plan	**Pre-Medicare Anthem Plans**	**Pre-Medicare Kaiser Plans**
Self-Funded Medicare Supplement Plans	88%	5%
Kaiser Permanente Medicare Advantage HMO	2%	94%
Rocky Mountain Health Plans Medicare HMO	6%	1%
UnitedHealthcare Medicare HMO	4%	0%

For those PERACare enrollees of the State, School, Local Government, Judicial, and Denver Public Schools Divisions, who are assumed to be ineligible for premium-free Medicare Part A and participate in the self-funded plans, 81% are assumed to elect MS#1, 17% are assumed to elect MS#2, and 2% are assumed to elect MS#3.

PERA Benefit Structure Initial Health Care Cost Rates

In determining the additional liability for PERACare enrollees who are age sixty-five or older and who are not eligible for premium-free Medicare Part A, the following monthly costs/premiums were provided by PERA, and are assumed for 2016. All costs are subject to the Health Care Cost Trend Rates.

Medicare Plan	Cost for Members without Medicare Part A	Premium for Members without Medicare Part A
Self-Funded Medicare Supplement Plans	$708	$309
Kaiser Permanente Medicare Advantage HMO	$593	$223
Rocky Mountain Health Plans Medicare HMO	$608	$243
UnitedHealthcare Medicare HMO	$690	$181

The 2016 Medicare Part A premium is $411 per month.

PERA Benefit Structure Annual Expected Cost Age Adjusted to Age 65

In determining the additional liability for PERACare enrollees who are age sixty-five or older and who are not eligible for premium-free Medicare Part A, the following chart details the initial expected value of Medicare Part A benefits, age adjusted to age 65 for the year following the valuation date.

Medicare Plan	Cost for Members without Medicare Part A
Self-Funded Medicare Supplement Plans	$314
Kaiser Permanente Medicare Advantage HMO	$333
Rocky Mountain Health Plans Medicare HMO	$279
UnitedHealthcare Medicare HMO	$433

PERA Benefit Structure Age Related Morbidity

For PERACare enrollees who are age sixty-five or older and who are not eligible for premium-free Medicare Part A, per capita health care costs of the PERACare Medicare plans are adjusted to reflect expected health care cost changes related to age. The increase to the net incurred health care claims is assumed to be:

Participant Age	Annual Increase
65 – 69	3.0%
70 – 74	2.5%
75 – 79	2.0%
50 – 84	1.0%
85 – 89	0.5%
90 and Older	0.0%

The Medicare Part A premium is not age adjusted, as Medicare is assumed to be a pooled health plan in which there are no age-related implicit subsidies between active employees and retirees.

The service-based premium subsidy for health care does not result in annually increasing costs to the PERA Benefit Structure as a PERACare enrollee ages (excluding the subsidy reduction at age 65 or the costs associated with Medicare disability eligibility).

PERA Benefit Structure Health Care Cost Trend Rates

Year	PERACare Medicare Plans	Medicare Part A Premiums
2016	5.00%	2.75%
2017	5.00%	2.75%
2018	5.00%	3.00%
2019	5.00%	3.50%
2020+	5.00%	4.25%

The service-based premium subsidy is assumed to remain constant at its current level.

PERA HCTF Dual Status Members and Retirees

Some members and retirees may be represented under both the PERA Benefit Structure and the DPS Benefit Structure, and are considered as members or retirees in both benefit structures due to their dual status. In calculating the PERA HCTF's liabilities for members with a liability under both the PERA HCTF and the DPS HCTF, recognition is given to the choice of benefit structure, and the allocation of member contributions between the two HCTFs, as set forth in C.R.S. 24-51-1206.5. The choice of benefit structure is based upon what is assumed to be of the highest economic value to the benefit recipient. Current allocation percentages and member contribution account balances were provided by PERA for dual status members and retirees. For active members, member contribution account balances were projected assuming annual interest crediting of 3.00%, future salary increases of 3.90%, and member contributions of 8.00% of projected salary.

METHODS AND ASSUMPTIONS SPECIFIC TO THE DPS DIVISION, THE DPS BENEFIT STRUCTURE, AND THE DPS HEALTH CARE TRUST FUND

DPS Division Health Care Participation Rates

Current PERACare enrollees of the Denver Public Schools (DPS) Division are assumed to maintain their current health care benefit elections in perpetuity. For active members retiring directly from the DPS Division, the following participation rates are assumed:

Attained Age(s)	Percent Electing Health Care Coverage
15-50	50%
51-59	60%
60-69	65%
70-71	70%
72+	75%

The participation of current PERACare enrollees and members retiring directly from active service is adjusted to reflect the increasing rate of participation with age, as described in the above table.

For deferred vested members of the DPS Division, 25% are assumed to elect health care coverage upon commencement of their monthly benefit.

For spousal participation, actual census data and current plan elections of current benefit recipients were used. For spouses of deferred vested members and future retirees of the DPS Division, 15% are assumed to elect coverage for their spouse. The age difference between covered male and female spouses is assumed to be 2 years.

DPS Benefit Structure Assumptions Specific to the “No Part A” Subsidy

For those retirees who are age 65 or older and are not eligible for premium-free benefits under Medicare Part A, an additional, “No Part A” premium subsidy is paid under the DPS Benefit Structure.

For those current retirees who are age 65 and older, the premium-free Medicare Part A eligibility status is provided by PERA and is assumed to be maintained in perpetuity. For current retirees not yet age 65, hired prior to April 1, 1986, and not assumed eligible for premium-free Medicare Part A coverage through their spouse, and for those active employees hired prior to April 1, 1986, the following percentage of retirees are assumed to not qualify for premium-free Medicare Part A benefits; thus qualifying for the “No Part A” subsidy from the DPS Benefit Structure:

Hire Age	Percent Qualifying for “No Part A” Subsidy
0-24	17%
25-29	11%
30+	4%

DPS Benefit Structure Assumptions Specific to the "No Part A" Subsidy (continued)

The qualifying assumptions are based upon the experience of current, Medicare eligible, PERACare enrollees. Date of hire and hire age are estimated based upon service and date of retirement for current benefit recipients, or service and the valuation date for active members. As a result, those who are re-employed or transfer to another PERA employer may have accumulated the required quarters of Medicare-covered employment.

95% of members enrolled in PERACare as a result of disability retirement are assumed to qualify for premium-free Medicare Part A.

100% of deferred vested members receiving health care benefits are assumed to obtain the 40 or more quarters of Medicare-covered employment required for premium-free Medicare Part A coverage as a result of their subsequent employment.

DPS Benefit Structure Additional Premium Subsidy

In determining the additional liability for retirees who are age sixty-five or older and who are not eligible for premium-free Medicare Part A, the following, additional monthly costs are assumed:

Years of Service	Subsidy for Members without Medicare Part A
20+	$115.00
19	109.25
18	103.50
17	97.75
16	92.00
15	86.25
14	80.50
13	74.75
12	69.00
11	63.25
10	57.50
9	51.75
8	46.00
7	40.25
6	34.50
5	28.75
4	23.00
3	17.25
2	11.50
1	5.75

The additional premium subsidy for retirees who are age sixty-five or older and who are not eligible for premium-free Medicare Part A is assumed to remain constant at its current level.

DPS Benefit Structure Morbidity

The liabilities for medical and drug post-employment benefits are to be based, in most circumstances, on assumed claims costs that vary by age. This is generally accomplished using rates of morbidity, or, an aging curve, modeling the growth in assumed claims as a PERACare enrollee ages. As the service-based premium subsidies for health care do not result in annually increasing costs to the DPS Benefit Structure as a retiree ages (excluding the subsidy reduction at age 65 or the costs associated with Medicare disability eligibility), no morbidity assumptions are utilized in the determination of DPS Benefit Structure liabilities.

DPS HCTF Dual Status Members and Retirees

Some members and retirees may be represented under both the PERA Benefit Structure and the DPS Benefit Structure, and are considered as members or retirees in both structures due to their dual status. In calculating the DPS HCTF's liabilities for members with a liability under both the PERA HCTF and the DPS HCTF, recognition is given to the choice of benefit structure, and the allocation of member contributions between the two HCTFs, as set forth in C.R.S. 24-51-1206.5. The choice of benefit structure is based upon what is assumed to be of the highest economic value to the benefit recipient. Current allocation percentages and member contribution account balances were provided by PERA for dual status members and retirees. For active members, member contribution account balances were projected assuming annual interest crediting of 3.00%, future salary increases of 3.90%, and member contributions of 8.00% of projected salary.

ACTUARIAL COST METHOD

1. The valuation is prepared on the projected benefit basis, which is used to determine the present value of each member's expected benefit payable at retirement, disability or death. The calculations are based on the member's age, years of service, sex, compensation, expected future salary increases, and an assumed future investment rate of return. The calculations consider the probability of a member's death or termination of employment prior to becoming eligible for a benefit and the probability of the member terminating with a service, disability, or survivor's benefit. The present value of the expected benefits payable to active members is added to the present value of the expected future payments to current benefit recipients to obtain the present value of all expected benefits payable to the present group of members and survivors.

2. The employer contributions required to support the benefits of PERA are determined following a level funding approach, and consist of a normal contribution and an actuarial accrued liability contribution.

3. The normal contribution is determined using the "entry age normal" method. Under this method, a calculation is made for pension benefits to determine the uniform and constant percentage rate of employer contribution which, if applied to the compensation of the average new member during the entire period of his anticipated covered service, would be required in addition to the contributions of the member to meet the cost of all benefits payable on his behalf.

Schedule G – Summary of Main Plan Provisions as Interpreted for Valuation Purposes

Effective Date

Pension: Established in 1931, most recently amended during 2015 to "true-up" the employer contribution rate of the DPS Division. The Denver Public Schools Retirement System (DPSRS) was merged into PERA effective January 1, 2010. As of that date, all liabilities and assets of DPSRS were transferred to and became liabilities and assets of the DPS Division of PERA, including the maintenance of a separate benefit structure for existing members. Therefore, if a DPS division member terminates employment (without refund) and later is reemployed with an affiliated employer in the State Division, he or she may be building on a DPS Benefit Structure within that division. The benefit provisions of existing members of PERA on the merger date and all new hires, post-merger, are building a benefit under the PERA Benefit Structure.

PERA Health Care Trust Fund (PERA HCTF): On July 1, 1985, employer contributions to the HCTF commenced. Plan coverage and premium subsidy payments began July 1, 1986.

DPS Health Care Trust Fund (DPS HCTF): On January 1, 2010, as part of the merger, the liabilities and assets of the Denver Public Schools health care trust fund were transferred into a newly created DPS Health Care Trust Fund and employer contributions from employers in the DPS Division commenced.

DEFINITIONS

Affiliated Employers

State agencies and institutions of higher education, political subdivisions of the state, all school districts, courts, cities and municipalities and any other public entities which affiliate with PERA.

Annual Increase Reserve

Applicable for PERA Benefit Structure members hired on or after January 1, 2007 and prior non-DPSRS members who became PERA members as of January 1, 2010, a portion of the employer contribution, currently equal to one percent of the salaries of affected members, is accumulated in the Annual Increase Reserve to be paid out in annual increases each July 1, to the extent affordable. A separate, annual actuarial valuation determines the affordability and the percentage of annual increases to the eligible members within the groups previously defined. The maximum annual increase awarded, if any, by the PERA Board is the least of:

a) Two percent of current benefits,

b) The average of the annual CPI-W increase determined each month published for the preceding calendar year, and

c) An increase that will exhaust ten percent of the year-end market value of the Annual Increase Reserve.

Covered Members	Employees of Affiliated Employers who work in a position subject to membership and for whom contributions are made.
Division	One of five separate divisions which include: State, School, Local Government, Judicial and Denver Public Schools (DPS). Only local government entities can voluntarily affiliate with PERA and these entities are assigned to the local government division. The financial activities of each division are accounted for in separate trust funds.
Highest Average Salary	For PERA Benefit Structure members, not in the Judicial Division, who are eligible for retirement as of January 1, 2011, one-twelfth of the average of the highest annual salaries upon which contributions were made during three periods of twelve consecutive months of Service Credit; or for a member with less than three years of Service Credit, one-twelfth of the average of the annual salaries upon which contributions were made. Annual salary increases recognized in the determination of HAS are limited to 15% a year for members who began membership prior to January 1, 2007. For members who began membership on or after January 1, 2007, the annual salary increases recognized in the determination of HAS are limited to 8% a year. For Judicial Division members, one-twelfth of the highest annual salary upon which contributions were made during one period of twelve consecutive months of Service Credit. For DPS Benefit Structure members, who are eligible for retirement as of January 1, 2011, the greater of the average of the 36 months of highest annual salaries or the career average salary. For all members, who are not eligible for retirement as of January 1, 2011, one-twelfth of the average of the highest annual salaries upon which contributions were made during three periods of twelve consecutive months of Service Credit; or for a member with less than three years of Service Credit, one-twelfth of the average of the annual salaries upon which contributions were made. Annual salary increases recognized in the determination of HAS are limited to 8% a year.

Interest Credit Rate 3% per annum, on member contribution account balances.

Service Credit The total of all earned, purchased, (disability) projected, and military service credit which is used to determine benefit eligibility and amounts.

Vested DPS Benefit Structure: Members who accrue five or more years of Service Credit are vested for benefits.

PERA Benefit Structure: Members who accrue five or more years of Service Credit or attain age sixty-five are vested for benefits.

CONTRIBUTIONS

Member Contributions

Members contribute 8.0% of salary. State Troopers contribute 10.0% of salary. Member contributions, together with any purchased service credit payments and interest, are credited to individual Member Contribution Accounts.

Effective January 1, 2011, retirees working for a PERA employer and not working as state legislators, as judges participating in the Senior Judge Program, or in a position covered by an Optional Retirement Plan are required to make member contributions at the same rate as an active member, however; the contributions are not credited to the member's account, do not accrue a benefit, and are non-refundable.

Employer Contributions

State Division (except State Troopers): 10.15% of salary on and after 7/1/2003

School Division: 10.15% of salary on and after 7/1/2003

State Troopers: 12.85% of salary on and after 7/1/2003

Local Government Division: 10.00% of salary on and after 1/1/2004

Judicial Division: 13.66% of salary on and after 7/1/2004

DPS Division: 10.15% of salary on and after 1/1/2015. Actual employer contributions are reduced by an amount equal to the principal payments plus interest at 8.5% necessary each year to finance the Pension Certificates of Participation (PCOPs) issued in 1997 and 2008 and refinanced thereafter. The amount of the credit for 2015 was 16.21% of salary. The net DPS Division employer contribution rate for 2015 was 2.14% when including the AED and SAED as described on the following page.

The employer contribution rates of the State, School, Local Government, and Judicial Divisions include the contribution of 1.02% allocated to the PERA Health Care Trust Fund.

The employer contribution rate of the DPS Division includes the contribution of 1.02% allocated to the DPS Health Care Trust Fund.

For PERA Benefit Structure members, hired on or after January 1, 2007, these contribution rates also include the 1.00% of payroll contribution earmarked for the Annual Increase Reserve.

Due to legislation in 2004 through 2006, employers are required to pay the statutory contribution, including AED and SAED amounts, on the payroll of working retirees.

Employer contributions are credited to the employer reserve of each division.

Amortization Equalization Disbursement (AED)

Beginning January 1, 2006 (January 1, 2010 for DPS Division), each employer shall pay to PERA a disbursement equal to a percent of total payroll in accordance with the following schedule:

Year	State Division	Schools/DPS Division
2006	0.50%	0.50%
2007	1.00%	1.00%
2008	1.40%	1.40%
2009	1.80%	1.80%
2010	2.20%	2.20%
2011	2.60%	2.60%
2012	3.00%	3.00%
2013	3.40%	3.40%
2014	3.80%	3.80%
2015	4.20%	4.20%
2016	4.60%	4.50%
2017 & after	5.00%	4.50%

If, at any time, the actuarial funded ratio for a division is 103% or more, then the amount of the disbursement shall be reduced by 0.5% of pay.

Supplemental Amortization Equalization Disbursement (SAED)

Beginning January 1, 2008 (January 1, 2010 for DPS Division), each employer shall pay to PERA a supplemental disbursement equal to a percent of total payroll in accordance with the following schedule:

Year	State Division	Schools/DPS Division
2008	0.50%	0.50%
2009	1.00%	1.00%
2010	1.50%	1.50%
2011	2.00%	2.00%
2012	2.50%	2.50%
2013	3.00%	3.00%
2014	3.50%	3.50%
2015	4.00%	4.00%
2016	4.50%	4.50%
2017	5.00%	5.00%
2018 & after	5.00%	5.50%

If, at any time, the actuarial funded ratio for a division is 103% or more, then the amount of the disbursement shall be reduced by 0.5% of pay.

For the Local Government and Judicial Divisions, the AED and SAED contributions are frozen at the 2010 levels. If, at any time, the actuarial funded ratio for a division is 103% or more, then the amount of the disbursement shall be reduced by 0.5% of pay.

Matching Contributions

A match applied to individual Member Contribution Accounts when a refund is made or when a money purchase benefit is calculated. The match is applied to the account balance less:

1. Any amount paid for the purchase of service credit,
2. Any payments in lieu of member contributions, and
3. Any interest accrued on 1 and 2.

For members who receive a refund and meet the requirements for a service or reduced service retirement at the time the match is applied, or for payments made to survivors or beneficiaries of members who die before retirement, the match is 100% of eligible amounts.

For PERA Benefit Structure members who receive a refund prior to meeting the requirements for a service or reduced service retirement, the match is 50% of eligible amounts. Effective January 1, 2011, members must have five years of earned service credit in order to receive the 50% match on a refund. Contributions received prior to January 1, 2011, are matched regardless if the member has five years of service credit on the refund date.

For DPS Benefit Structure members who receive a refund prior to meeting the requirements for a service or reduced service retirement, no match is provided.

ELIGIBILITY FOR BENEFITS – PERA BENEFIT STRUCTURE

Refund of Member Contributions

In the event a member leaves service for a reason other than death or retirement, member contribution accounts including interest plus matching employer contributions on eligible amounts with interest are refunded upon request.

Service Retirement

The Age and Service Credit requirements to be eligible for a full Service Retirement are listed below:

- **Members, except State Troopers, hired before 7/1/2005 who have 5 or more years of service credit as of 1/1/2011**

Age	Service Credit
50	30
55	Age and Service = 80 years or more
60	20
65	5
65	Less than 5 but 60 payroll postings

- **Members, except State Troopers, hired on and after 7/1/2005 but before 1/1/2007, and who have 5 or more years of service credit as of 1/1/2011**

Age	Service Credit
Any Age	35
55	Age and Service = 80 years or more
60	20
65	5
65	Less than 5 but 60 payroll postings

- **Members, except State Troopers, hired on and after 1/1/2007 but before 1/1/2011, or who have less than 5 years of service credit as of 1/1/2011**

Age	Service Credit
Any Age	35
55	30
55	Age and Service = 85 years or more
60	25
65	5
65	Less than 5 but 60 payroll postings

- **Members, except State Troopers, hired on and after 1/1/2011 but before 1/1/2017 and Members, except State Troopers, hired on and after 1/1/2017 whose last 10 years of service credit are in either the School or DPS Division**

Age	Service Credit
Any Age	35
58	Age and Service = 88 years or more
65	5
65	Less than 5 but 60 payroll postings

- **Members, except State Troopers hired on and after 1/1/2017 whose last 10 years of service credit are not in either the School or DPS Divisions**

Age	Service Credit
Any Age	35
60	Age and Service = 90 years or more
65	5
65	Less than 5 but 60 payroll postings

- **State Troopers, regardless of date of hire**

Age	Service Credit
Any Age	30
50	25
55	20
65	5
65	Less than 5 but 60 payroll postings

Reduced Service Retirement

The Age and Service Credit requirements to be eligible for a Reduced Service Retirement are listed below:

- **Members, except State Troopers, regardless of date of hire**

Age	Service Credit
50	25
55	20
60	5

- **State Troopers, regardless of date of hire**

Age	Service Credit
50	20
60	5

Disability Retirement

Active members with five or more years of earned service credit, with at least 6 months of this time earned in the most recent period of membership are eligible to apply for disability retirement. To be eligible, the member must be found to be totally and permanently disabled (mentally or physically) from regular and gainful employment. The service credit requirement is waived for state troopers injured in the line of duty and for judges found disabled by the Colorado Supreme Court.

Survivor Benefits

The qualified survivors of members who die before retirement with at least one year of service credit are eligible for monthly survivor benefits. The service credit requirement is waived if the death was job related.

MONTHLY BENEFIT CALCULATIONS – PERA BENEFIT STRUCTURE

Service Retirement Benefit

State, including state troopers, School, Local Government, DPS Divisions and Members of the Judicial Division who were on the bench on and after July 1, 1973:

The greater of a) or b)

a) 2.5% of HAS times years of Service Credit up to 40

b) The money purchase benefit which is actuarially determined based on the value of the member contribution account and matching employer contributions on the effective date of retirement.

Members age 65 with less than 5 years and less than 60 payroll postings are eligible for the money purchase benefit only.

In all cases, the benefit is limited to 100% of HAS.

Reduced Service Retirement Benefit

For all members, except State Troopers:

The service retirement benefit calculated above reduced 4% for each year after age 60, 3% for each year from age 55 to age 60, 6% for each year prior to 55, and proportionately for fractions of a year, from the effective date of reduced service retirement to the date the member would have been eligible for a service retirement benefit.

For State Troopers:

The service retirement benefit calculated above reduced 4% for each year after age 60, 3% for each year from age 50 to age 60, and proportionately for fractions of a year, from the effective date of reduced service retirement to the date the member would have been eligible for a service retirement benefit.

Effective January 1, 2011, for all members that are not retirement eligible on January 1, 2011, the service retirement benefit calculated above shall be reduced using actuarial equivalent factors, from the effective date of reduced service retirement to the date the member would have been eligible for a service retirement benefit.

Disability Retirement Benefit

If years of Service Credit at disability are greater than 20, the disability retirement benefit is calculated based on actual Service Credit at disability; otherwise, the disability retirement benefit is calculated based on actual Service Credit at disability plus Service Credit projected to age 65, but not to exceed a total of 20 years of Service Credit.

Benefits for disability retirees with an effective disability retirement date on or after July 1, 1988 and before January 1, 1999, who work after retirement will be reduced by 1/3 of the amount, if any, by which the initial annual PERA benefit plus earned income exceeds the annualized HAS.

Disability benefits are payable for as long as the disability retiree is disabled. Benefits cease upon recovery.

Survivor Benefits

- **If the deceased was not Eligible for Reduced or Service Retirement at the time of Death**

Benefits are payable in the following order:

a) Qualified Children Under Age 23: 40% of HAS for one child, an equal share of 50% of HAS if there are two or more children.

b) Spouse: If no qualified children in (a) exist: i) less than 10 years of Service Credit, 25% of HAS, benefits begin at age 60; ii) 10 or more years of Service Credit, the greater of 25% of HAS or the benefit which would have been payable as a 100% joint and survivor option if the deceased member had been eligible for service retirement and retired on the date of death, benefits begin immediately.

c) Qualified Children Age 23 or Over: If no persons in (a) or (b) exist, 40% of HAS for one child, an equal share of 50% of HAS if there are two or more children.

d) Dependent Parents: If no persons in (a) to (c) exist, 25% of HAS for one dependent parent or 40% of HAS for two dependent parents (minimum of $100 per month for each dependent parent). Benefits begin immediately and continue until the death of the parent(s).

e) Named Beneficiary: If no persons in (a) to (d) exist, single payment equal to the member contribution account plus the appropriate matching contribution, plus interest.

f) Estate of Deceased Member: If no persons in (a) to (e) exist, single payment equal to the member contribution account plus the appropriate matching contribution, plus interest.

- **If the deceased was eligible for Reduced or Service Retirement at the time of Death**

The co-beneficiary is eligible for the amount that would have been payable had the member retired on the date of death and elected the 100% joint and survivor option. The order of payment is:

a) Co-beneficiary – If the deceased member designated a co-beneficiary prior to death, that individual takes precedence in payment of benefits.
b) Surviving Spouse
c) Qualified Children
d) Dependent Parents
e) Named beneficiary
f) Estate

Benefit Options

Retirement and disability benefits are payable for the life of the retired member. Optional reduced benefits may be elected at the time of retirement to provide for continuation of 50% or 100% of a reduced benefit amount to a designated co-beneficiary. If the member retires any time after the date on which service retirement eligibility is first met, the reduction for 50% or 100% continuation option will be actuarially determined as of the date the member first became eligible for service retirement.

Post-Retirement Benefit Increases

For members hired prior to January 1, 2007, each year on July 1, benefits which have been paid for at least twelve months preceding July 1 are increased.

The increase is 2.0% compounded annually for each year of retirement. If the investment return for the prior year is negative, then the increase will be an amount equal to the average of the annual CPI-W increases determined monthly for the prior year with a cap of 2%.

In addition, the increase will be first paid on the July 1 that is at least 12 months after retirement for those members who retire on or after January 1, 2011. Members not eligible to retire as of January 1, 2011 who retire with a reduced service retirement allowance must reach age 60 or the age and service requirements for unreduced service retirement to be eligible for the Post-Retirement Benefit Increases.

For PERA Benefit Structure service and disability retirees who were hired on or after January 1, 2007, and for PERA Benefit Structure survivor benefit recipients of deceased members who were hired on or after January 1, 2007:

- The increase is the lower of 2.0 percent or the average of the CPI-W for each of the months during the prior calendar year. Increases to all benefit recipients in this group are limited to 10 percent of the total funds available in the Annual Increase Reserve in the division from which they retired or were a member before death.
- Members must receive benefits for a full calendar year to be eligible for the increase.
- The increase for service retirees who retire with a reduced service retirement does not begin until the retiree has been receiving benefits for a full calendar year and has on January 1 of the year the increase is paid, either reached age 60, or years of service plus age equal 85, 88, or 90, whichever is applicable.
- No minimum age or service credit requirement shall apply for disability retirees or survivor benefit recipients.

ELIGIBILITY FOR BENEFITS – DPS BENEFIT STRUCTURE

Refund of Member Contributions

In the event a member leaves service for a reason other than death or retirement, member contribution accounts including interest plus applicable matching employer contributions with interest are refunded upon request.

Service Retirement

The Age and Service Credit requirements to be eligible for a full Service Retirement are listed below:

- **Members, hired before 1/1/2010 who have 5 or more years of service credit on 1/1/2011**

Age	Service Credit
50	30
55	25 (must include 15 years of earned service)
65	5

- **Members, hired before 1/1/2010 who have less than 5 years of service credit as of 1/1/2011**

Age	Service Credit
Any Age	35
55	30 (must include 20 years of earned service)
55	Age and Service = 85 years or more
60	25
65	5
65	Less than 5 but 60 payroll postings

Reduced Service Retirement

The Age and Service Credit requirements to be eligible for a Reduced Service Retirement are listed below:

- **Members, regardless of date of hire who have 5 or more years of service credit on 1/1/2011**

Age	Service Credit
55	15
Any Age	25

- **Members, regardless of date of hire who have less than 5 years of service credit on 1/1/2011**

Age	Service Credit
50	25
55	20
60	5

Disability Retirement Active members with five or more years of earned service credit, with at least 6 months of this time earned in the most recent period of membership are eligible to apply for disability retirement. To be eligible, the member must be found to be totally and permanently disabled (mentally or physically) from regular and gainful employment.

Survivor Benefits The qualified survivors of members who die before retirement with at least five years of service credit and are active at time of death are eligible for monthly survivor benefits.

MONTHLY BENEFIT CALCULATIONS – DPS BENEFIT STRUCTURE

Service Retirement Benefit The greater of a) or b)

a) 2.5% of HAS times years of Service Credit

b) $15 times first 10 years of service credit plus $20 times service credit over 10 years plus an amount equal to annuitized member balance.*

* May include matching dollars if eligible.

Reduced Service Retirement Benefit

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 50 • 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 of service below 25 years

The reduction factor in the table above equals 6% per year for those hired on or after 7/1/2005 but before 1/1/2010.

Effective 1/1/2011, for all members that are not retirement eligible on 1/1/2011, the service retirement benefit calculated above shall be reduced using actuarial equivalent factors, from the effective date of reduced service retirement to the date the member would have been eligible for a service retirement benefit.

Disability Retirement Benefit

If years of Service Credit at disability are greater than 20, the disability retirement benefit is calculated based on actual Service Credit at disability; otherwise, the disability retirement benefit is calculated based on actual Service Credit at disability plus Service Credit projected to age 65, but not to exceed a total of 20 years of Service Credit.

Disability benefits are payable for as long as the disability retiree is disabled. Benefits cease upon recovery.

Survivor Benefits

a) Child: Greater of 10% of HAS for each child up to a limit of 30%; and$160 (pro-rated) for each child up to a limit of $480.

b) Spouse with eligible children: 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 HAS, and $480.

c) Dependent Parents: The greater of 10% of HAS for each parent; and $240 per parent.

d) Spouse (less than 15 years of service): Lesser of 30% of HAS; and $480, payable at later of age 60 or when last eligible child loses eligibility.

e) Spouse (15 years of service or more): Greater of 30% of HAS, plus an additional 1% for each year of service over 15 years; and $480, payable at later of age 50 or when last eligible child loses eligibility.

Benefit Options

Option A: Single life annuity (SLA) with residual refund of member contributions.

Option B: Single life annuity with guarantee period determined based on accumulated employee contribution balance at retirement.

Option C: 100% joint and survivor with 10 years certain. – Not available to members retiring post 1/1/2010

Option D: Cash refund on annuity portion and SLA on pension portion. – Not available to members retiring post 1/1/2010

Option E: 50% joint and survivor with 10 years certain. – Not available to members retiring post 1/1/2010

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.

Post-Retirement Benefit Increases

Each year on July 1, benefits which have been paid for at least twelve months preceding July 1 are increased.

The increase is 2.0% compounded annually for each year of retirement. If the investment return for the prior year is negative, then the increase will be an amount equal to the average of the annual CPI-W increases determined monthly for the prior year with a cap of 2%.

In addition, the increase will be first paid on the July 1 that is at least 12 months after retirement for those members who retire on or after January 1, 2011. Members not eligible to retire as of January 1, 2011 who retire with a reduced service retirement allowance must reach age 60 or the age and service requirements for unreduced service retirement to be eligible for the Post-Retirement Benefit Increases.

OTHER PROVISIONS SPECIFIC TO THE HEALTH CARE TRUST FUNDS

Eligibility for Health Care Coverage

The PERA Health Care Trust Fund (PERA HCTF) includes assets for the purpose of paying premium subsidies on behalf of PERA Benefit Structure benefit recipients and DPS Benefit Structure retirees who worked for an employer in the State, School, Local Government, and Judicial Divisions within PERA who enroll in PERACare.

The DPS Health Care Trust Fund (DPS HCTF) includes assets for the purpose of paying premium subsidies on behalf of PERA Benefit Structure benefit recipients and DPS Benefit Structure retirees who worked for employers of the DPS Division and who enroll in PERACare.

The following individuals are eligible to enroll in PERACare:

- Anyone receiving a monthly PERA benefit (benefit recipient). If the benefit recipient is enrolled in PERACare, the following dependents may be enrolled: spouses (including civil union partners recognized under Colorado law), domestic partners, unmarried dependent children under age 25, certain mentally or physically incapacitated adult children, and dependent parents.

- Guardians of children receiving PERA survivor benefits, if children are receiving health care benefits.

- PERA retirees temporarily not receiving PERA benefits.

- Surviving spouses of deceased retirees who are not receiving PERA benefits but were enrolled in PERACare at the time when death occurred.

- Divorced spouses of retirees who are not receiving PERA benefits, but were receiving health care benefits when the divorce occurred.

Enrollment

Enrollment is voluntary, with eligibility within 30 days of initial pension benefit payment, upon the occurrence of certain life events, and during an annual open enrollment for coverage effective each January 1. If a surviving spouse or divorced spouse discontinues coverage, re-enrollment is not allowed.

Premium Subsidy

A monthly subsidy is allocated to each benefit recipient under the PERA Benefit Structure and each retiree under the DPS Benefit Structure electing health care coverage. Survivors of retirees under the PERA Benefit Structure are eligible to receive the subsidy. The following monthly amounts are based upon the benefit structure elected, date of retirement, Medicare eligibility, and/or credited service:

DPS Benefit Structure Retirees Who Retired Prior to July 1, 1994:

- $230 per month for retirees without Medicare Part A.
- $115 per month for retirees with Medicare Part A.

DPS Benefit Structure Retirees Who Retire On or After July 1, 1994:

- $5.75 if age 65 or older and eligible for premium-free Medicare Part A.
- $11.50 if not yet age 65, or if age 65 or older and not eligible for premium-free Medicare Part A.

  The monthly amounts above are allocated per year of credited service up to a maximum of 20 years of service.

PERA Benefit Structure Benefit Recipients:

- $5.75 if age 65 or older or eligible for Medicare Part B.
- $11.50 if not yet age 65 or not eligible for Medicare Part B.

  The monthly amounts above are allocated per year of credited service up to a maximum of 20 years of service.

This subsidy is used to determine member premiums, which are the projected full cost of coverage less the premium subsidy. The full costs for claims, administration, premiums, etc., are allocated and paid by the PERA HCTF and the DPS HCTF.

Historically, this has resulted in net costs to the PERA HCTF and the DPS HCTF being very close to the premium subsidy, with all costs of coverage above this subsidy paid by the member. For those benefit recipients under the PERA Benefit Structure who are age 65 or older, the full cost of coverage is considered to be based on the full cost of coverage assuming eligibility for premium-free Medicare Part A. This is independent of actual eligibility for premium-free Medicare Part A.

Members not receiving a PERA monthly benefit do not qualify for this subsidy and bear the full cost of coverage.

This premium subsidy is only available to those enrolled in PERACare and meeting the requirements defined by the benefit structure under which they retire.

Special Note on Members not qualifying for Medicare Part A:

Under the PERA Benefit Structure, an implicit subsidy is paid for those members not eligible for premium-free Medicare Part A benefits. For members in the fully-insured HMOs, this amount is the difference in premiums charged for those without Medicare Part A and for those enrolled in Medicare Part A. For the self-funded plans, this amount is the assumed difference in claims costs for services covered under Medicare Part A between members without Medicare Part A coverage and those enrolled in Medicare Part A.

The DPS Benefit Structure pays an explicit subsidy for those members eligible to receive the premium subsidy and who are not eligible for premium-free Medicare Part A coverage. For these members an additional subsidy of $5.75 per month for each year of credited service (up to a maximum of 20 years of service) is allocated.

Special Note on Premium Subsidy Funding for Members in both the PERA HCTF and the DPS HCTF:

For members covered under both the PERA HCTF and the DPS HCTF, the allocation of the subsidy amounts is done via an allocation method set forth in C.R.S. 24-51-1206.5.

SCHEDULE OF ACTIVE MEMBER DATA
AS OF DECEMBER 31, 2015

STATE DIVISION

Attained Age	Completed Years of Service								
	Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30+	Total	Reported Payroll
Under 20	134	0	0	0	0	0	0	134	$ 727,818
20 to 24	1,535	4	0	0	0	0	0	1,539	$ 31,310,120
25 to 29	3,760	395	5	0	0	0	0	4,160	$ 138,165,205
30 to 34	3,987	1,578	257	12	0	0	0	5,834	$ 238,989,197
35 to 39	2,954	1,753	1,122	265	6	0	0	6,100	$ 282,900,079
40 to 44	2,376	1,515	1,233	962	199	8	0	6,293	$ 323,312,861
45 to 49	4,060	1,674	1,210	1,148	813	300	31	9,236	$ 464,958,582
50 to 54	1,790	1,345	1,188	1,056	831	671	218	7,099	$ 389,854,892
55 to 59	1,496	1,351	1,157	1,012	769	582	386	6,753	$ 363,276,973
60	291	246	234	161	160	107	68	1,267	$ 66,709,941
61	253	236	178	179	123	85	67	1,121	$ 59,843,007
62	203	199	203	170	99	85	72	1,031	$ 54,249,988
63	212	192	183	148	109	67	56	967	$ 49,176,091
64	161	149	157	109	99	71	60	806	$ 43,026,055
65	139	147	134	116	79	63	49	727	$ 37,065,234
66	120	124	97	67	57	38	27	530	$ 26,151,521
67	106	86	72	54	30	25	32	405	$ 19,584,907
68	73	62	51	44	33	19	27	309	$ 14,328,363
69	72	51	46	40	13	24	33	279	$ 12,530,719
70 & Over	227	128	103	75	55	49	64	701	$ 25,705,097
Total	23,949	11,235	7,630	5,618	3,475	2,194	1,190	55,291	$ 2,641,866,650

Average Age (Non-Trooper):	45.94	Average Age (Trooper):	41.53
Average Service (Non-Trooper):	8.92	Average Service (Trooper):	12.11

SCHEDULE OF ACTIVE MEMBER DATA
AS OF DECEMBER 31, 2015

SCHOOL DIVISION

Attained Age	Completed Years of Service								
	Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30+	Total	Reported Payroll
Under 20	761	0	0	0	0	0	0	761	$ 4,032,133
20 to 24	4,302	37	0	0	0	0	0	4,339	$ 72,165,923
25 to 29	9,531	1,141	45	0	0	0	0	10,717	$ 302,570,372
30 to 34	7,001	4,336	902	20	0	0	0	12,259	$ 414,776,790
35 to 39	6,285	3,604	3,755	630	16	0	0	14,290	$ 532,776,080
40 to 44	6,027	3,173	3,040	2,600	378	9	0	15,227	$ 597,232,796
45 to 49	7,966	3,573	3,037	2,462	1,928	359	11	19,336	$ 722,255,079
50 to 54	4,132	2,895	3,098	2,251	1,676	1,421	247	15,720	$ 633,126,590
55 to 59	3,300	2,326	2,808	2,408	1,650	958	562	14,012	$ 529,441,804
60	519	383	403	383	245	132	101	2,166	$ 77,699,082
61	456	277	362	336	219	127	99	1,876	$ 69,187,819
62	426	266	334	291	214	113	67	1,711	$ 60,544,076
63	373	257	272	212	190	100	65	1,469	$ 50,471,678
64	336	244	234	165	143	98	58	1,278	$ 43,967,454
65	312	192	174	142	101	74	36	1,031	$ 33,009,111
66	299	133	134	95	61	44	33	799	$ 23,649,416
67	242	123	105	72	61	31	23	657	$ 17,875,452
68	201	113	90	56	31	25	23	539	$ 13,174,834
69	197	114	68	51	29	25	18	502	$ 11,614,981
70 & Over	733	369	206	98	59	38	47	1,550	$ 25,718,812
Total	53,399	23,556	19,067	12,272	7,001	3,554	1,390	120,239	$ 4,235,290,282

Average Age: 44.55
Average Service: 8.36

SCHEDULE OF ACTIVE MEMBER DATA
AS OF DECEMBER 31, 2015

LOCAL GOVERNMENT DIVISION

Attained Age	Completed Years of Service								
	Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30+	Total	Reported Payroll
Under 20	454	0	0	0	0	0	0	454	$ 1,898,447
20 to 24	628	6	0	0	0	0	0	634	$ 9,328,093
25 to 29	846	93	6	0	0	0	0	945	$ 30,070,127
30 to 34	772	231	91	10	0	0	0	1,104	$ 46,239,048
35 to 39	699	319	203	66	8	0	0	1,295	$ 64,136,025
40 to 44	749	299	292	139	43	1	0	1,523	$ 74,311,599
45 to 49	502	280	344	173	112	45	6	1,462	$ 84,488,026
50 to 54	438	265	340	190	156	114	52	1,555	$ 91,001,124
55 to 59	388	269	279	200	159	103	70	1,468	$ 82,731,554
60	76	45	46	31	28	20	15	261	$ 13,624,300
61	59	33	41	38	20	11	10	212	$ 11,741,299
62	60	40	38	25	20	7	6	196	$ 9,946,140
63	65	39	38	25	15	17	6	205	$ 10,162,578
64	52	35	32	20	17	5	11	172	$ 8,894,525
65	38	18	32	6	14	5	4	117	$ 5,237,666
66	38	30	30	11	5	6	3	123	$ 5,527,956
67	29	15	21	4	4	4	1	78	$ 3,208,654
68	37	11	11	8	3	1	3	74	$ 2,560,628
69	28	7	13	3	6	1	2	60	$ 1,967,673
70 & Over	128	53	33	12	9	2	1	238	$ 4,442,743
Total	6,086	2,088	1,890	961	619	342	190	12,176	$ 561,518,205

Average Age: 44.45
Average Service: 7.80

SCHEDULE OF ACTIVE MEMBER DATA
AS OF DECEMBER 31, 2015

JUDICIAL DIVISION

Attained Age	Completed Years of Service								
	Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30+	Total	Reported Payroll
Under 20	0	0	0	0	0	0	0	0	$ -
20 to 24	0	0	0	0	0	0	0	0	$ -
25 to 29	0	0	0	0	0	0	0	0	$ -
30 to 34	2	0	0	0	0	0	0	2	$ 68,146
35 to 39	5	1	0	0	0	0	0	6	$ 581,614
40 to 44	4	6	1	2	0	0	0	13	$ 1,742,031
45 to 49	10	13	12	3	4	1	0	43	$ 5,908,208
50 to 54	8	27	11	10	6	5	1	68	$ 9,742,599
55 to 59	8	21	11	11	10	11	3	75	$ 10,774,870
60	4	3	0	3	0	2	0	12	$ 1,719,737
61	1	0	4	2	1	1	0	9	$ 1,207,142
62	2	5	2	1	1	2	1	14	$ 2,034,715
63	0	5	5	4	3	1	1	19	$ 2,638,852
64	0	1	2	0	2	0	2	7	$ 1,007,017
65	1	3	2	3	1	4	2	16	$ 2,352,574
66	0	4	2	1	1	3	1	12	$ 1,742,955
67	0	1	4	2	1	1	2	11	$ 1,309,581
68	1	0	1	3	2	1	2	10	$ 1,404,905
69	0	0	2	1	0	0	1	4	$ 608,082
70 & Over	1	0	0	3	1	4	4	13	$ 2,026,702
Total	47	90	59	49	33	36	20	334	$ 46,869,730

Average Age: 56.65
Average Service: 14.32

SCHEDULE OF ACTIVE MEMBER DATA
AS OF DECEMBER 31, 2015

DENVER PUBLIC SCHOOLS DIVISION

Attained Age	Completed Years of Service								
	Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30+	Total	Reported Payroll
Under 20	51	0	0	0	0	0	0	51	$ 493,977
20 to 24	893	4	0	0	0	0	0	897	$ 17,871,740
25 to 29	2,334	233	2	0	0	0	0	2,569	$ 81,821,578
30 to 34	1,691	767	44	0	0	0	0	2,502	$ 99,498,368
35 to 39	1,638	714	250	23	1	0	0	2,626	$ 102,946,199
40 to 44	716	542	273	175	15	1	0	1,722	$ 76,938,864
45 to 49	573	449	235	191	74	13	2	1,537	$ 69,215,365
50 to 54	416	394	167	175	120	84	11	1,367	$ 63,749,004
55 to 59	341	344	155	167	106	81	39	1,233	$ 52,114,696
60	53	61	26	27	20	13	4	204	$ 9,033,200
61	53	57	26	27	17	5	8	193	$ 8,201,351
62	61	46	27	23	16	13	8	194	$ 7,872,269
63	30	43	26	22	13	10	3	147	$ 6,735,114
64	37	34	17	16	6	11	6	127	$ 5,209,831
65	38	35	13	24	12	6	1	129	$ 5,530,747
66	19	32	6	10	9	1	2	79	$ 3,050,775
67	25	27	6	4	4	8	4	78	$ 3,137,914
68	20	21	1	2	0	1	1	46	$ 1,155,024
69	17	14	1	5	2	5	3	47	$ 1,776,560
70 & Over	75	67	13	9	9	1	7	181	$ 4,761,997
Total	9,081	3,884	1,288	900	424	253	99	15,929	$ 621,114,573

Average Age (DPS Benefit Structure): 51.51
Average Service (DPS Benefit Structure): 17.47

Average Age (PERA Benefit Structure): 38.48
Average Service (PERA Benefit Structure): 3.65

COLORADO PERA DEFINED BENEFIT PENSION PLAN

FUNDING POLICY

I. Introduction—

The Colorado Public Employees' Retirement Association (PERA) maintains five pre-funded, hybrid defined benefit pension plans (i.e., State, School, Local Government, Judicial, and Denver Public Schools). Each defined benefit pension plan is funded through PERA-affiliated employer contributions, employee contributions, and the investment earnings resulting from those contributions. The fixed contribution rate at which each division's employers contribute is determined by the Colorado General Assembly and defined within the statutes governing PERA.

The purposes of this funding policy are to state the overall funding goals and annual actuarial metrics and to guide the PERA Board of Trustees (Board) when considering whether to pursue or support proposed contribution and benefit legislation. Finally, the policy will include a brief list of governance responsibilities regarding the commissioning, collection, and review of actuarial information, as described in the Board's *Governance Manual*.

PERA also maintains two pre-funded retiree health care subsidy plans, classified as other postemployment benefit (OPEB) plans. The funding policy regarding the retiree health care subsidy plans will be revised and updated after the completion and release of the anticipated GASB Financial and Accounting Standards applicable to OPEB. Until that time, the current funding policy will remain in force with regard to the health care subsidy plans administered by PERA.

It is the intention of the Board that this funding policy be considered a working document, reviewed periodically and, as necessary, altered in the future through formal action of the Board. The final page of this document contains the review and revision/adoption history pertaining to the funding policy of the PERA defined benefit pension plans.

II. Background—

In response to the unfavorable investment market of 2008, and in addition to the funding policy adopted in November 2007, the Board set the following guiding principles in 2009 in the development of a comprehensive package to maintain long-term sustainability:

- Shared responsibility among members, retirees, and employers;
- Intergenerational equity;
- Preservation of the defined benefit plan;
- Preservation of portability through the maintenance of existing benefit structures for the different divisions; and
- Development of recommendations that would have little-to-no short-term impact on member behavior.

In 2009 and 2010, these guiding principles benefited the Board and all the stakeholders associated with the pension plan as solutions to the immediate funding situation were explored. The Board constructed a series of plan provision changes, enlisting the philosophy of the guiding principles—under the umbrella of shared responsibility—and communicated their recommendations to the General Assembly. Senate Bill 10-001 was the culmination of all the provisional and contribution changes that were to set PERA's course toward sustainability. Senate Bill 10-001 also contained the following funding and annual increase requirements, which now are embedded in Colorado Statute and will be implemented regardless of the Board's pension funding policy:

- Per C.R.S. § 24-51-411(8), and § 24-51-411(9), the AED and the SAED are adjusted based on the year-end actuarial funded ratio within a particular division;
  - If a division trust fund's actuarial funded ratio;
    - Reaches 103 percent, a decrease in the AED and SAED is mandated, and,
    - Subsequently falls below 90 percent, an increase is mandated.
  - For the Local Government and Judicial Divisions, if the actuarial funded ratio reaches 90 percent and subsequently falls below 90 percent, an increase in the AED and SAED is mandated.
  - Increases in AED and SAED cannot exceed the statutory maximum allowable limitation.
- Per C.R.S. § 24-51-1009.5, if the combined pension divisions' trust fund actuarial funded ratio;
  - Reaches 103 percent, the upper limit of the annual increase shall be increased by one-quarter of one percent, and,
  - Subsequently falls below 90 percent, the upper limit of the annual increase shall be decreased by one-quarter of one percent.

These statutory elements, in addition to the current schedule of employer contribution rates, assist in the ongoing balance of shared responsibility. It is not the intention of this Board, through the development of this funding policy, to undermine or circumvent the work accomplished by Senate Bill 10-001, but rather to ensure continued fiduciary commitment through sound governance practices and recognition of these statutory funding policies.

III. Funding Goals—

- Preservation of the **defined benefit plan structure** of providing lifetime benefits to the employees of PERA-affiliated employers, reflecting the fact that PERA members are not covered under Social Security.
- Demonstration of **transparency and accountability** through the continued maintenance of a defined benefit pension plan funding policy for the stakeholders of PERA.

- **Achievement of a combined divisions' trust fund actuarial funded ratio greater than or equal to 110%.** Once the 110% combined funded ratio is achieved, following (1) the complete discontinuance of AED and SAED contributions, and (2) the restoration of the annual increase to pre-2010 levels pursuant to C.R.S. § 24-51-1009.5, the Board will consider and/or support the following actions, as ordered, as long as the funded ratio, either combined or individual by division, does not fall below 100% after consideration of the proposed change:
  - Examination and possible action of de-risking the entire plan, including all divisions
  - Reduction in the base contribution rate(s)
  - Adoption of a benefit enhancement, beyond restoration of the annual increase as described above.

  If the 110% funded ratio benchmark is attained through the assistance of certain funding arrangements where assets, outside of statutory contributions, are added to the plan, and results in additional tax-payer obligation, the payment method and duration of this debt should be considered prior to any supportive action taken regarding benefit enhancements.

- Dedication to the balance between:
  - **Contribution rate stability**—keeping contributions relatively stable over time, and
  - **Intergenerational equity—**allocating costs over the employees' period of active service.
- Dedication to the systematic **reduction of the unfunded actuarial accrued liabilities** (UAAL), subject to the required action by the state legislature as described in C.R.S. § 24-51-411(8), § 24-51-411(9), and § 24-51-1009.5, and as briefly summarized above in Section II.
- Recognition that within a multiple-employer cost-sharing defined benefit plan there are **beneficial elements of pooled risk**, both in the accrual of plan liabilities, recognizing actuarial gains and loss by division, rather than by employer; and in the accumulation of plan assets through the engagement of an appropriate level of asset risk management.

IV. Annual Actuarial Metrics—

Below is a list of actuarial metrics to be assessed on an **annual basis as of the actuarial valuation date**. The Board recognizes that a single year's results may not be indicative of long-term trends and projected results.

- **Funded ratios**—Calculate and review by division:
  - The actuarial funded ratio based on the actuarial value of plan assets divided by the defined benefit pension plan's actuarial accrued liability (AAL), and
  - The market value funded ratio based on the market value of plan assets divided by the defined benefit pension plan's AAL.

- **Funding period**—To be determined for each division with respect to the division's contribution rates. A funding period is the amortization period required to pay off that division's UAAL considering the resources available. Funding periods for each division will be determined in the annual actuarial valuation in relationship to both
  - Statutory contribution rates, and
  - Actuarially determined contribution (ADC) rates.
- **Contribution rate comparison—**
  - Calculate and review by division.
- **Actuarial Projections—**
  - Perform and review, by division,
    - Actuarial projections considering appropriate benefit provisions, salary and demographic data, actuarial assumptions, membership growth, and statutory contribution rates in order to determine the sustainability of each division under their benefit provisions and statutory contribution rate structure.
    - Projection modeling that allows for the testing of projection results under various economic and demographic stress conditions.

V. Funding Valuation Elements—

Annually, the Board's actuary will perform an actuarial valuation for funding purposes, and calculate ADC rates against which to compare contribution rates mandated under State statute. The ADC will be the sum of a payment based on normal cost and a payment on the UAAL. The normal cost and the amount of payment on the UAAL are determined by the following three major components of a funding valuation:

- **Actuarial Cost Method:** This component determines the attribution method upon which the cost/liability of the retirement benefits are allocated to a given period, defining the normal cost or annual accrual rate associated with the projected benefits.
  - The Entry Age Normal Cost Method (EAN), as is used for PERA's annual actuarial valuation purposes, is to be used for the determination of the normal cost rate and the actuarial accrued liability for purposes of calculating the ADC.
  - Under this method, normal cost is calculated using benefits based on projected service and salary at retirement and is allocated over an individual's career as a level percent of payroll. Because EAN normal cost rates are level for each participant, the normal cost pattern for the entire plan under EAN is more stable in the face of demographic shifts in the workforce. It is this normal cost stability that makes the EAN method the preferred funding method for the majority of public defined benefit pension plans.

- **Asset Valuation Method:** This component dictates the method by which the asset value, used in the determination of the UAAL, is determined, which could be a market value or a smoothed actuarial value of trust assets.
    - Because investment markets are volatile and defined benefit pension plans typically have long investment horizons, application of an asset-smoothing technique can be an effective tool to manage contribution volatility and provide a more consistent measure of pension plan funding over time. Asset-smoothing methods reduce the effect of short-term market volatility on contributions, while still tracking the overall movement of the market value of plan assets, by recognizing the effects of investment gains and losses over a period of years.
    - The asset valuation method to be used shall be a four-year *smoothed* market value of assets. The difference between actual market value investment returns and the expected actuarial investment returns is recognized equally over a four-year period.
- **Amortization Method:** This component prescribes, in terms of duration and pattern, the systematic manner in which the difference between the actuarial accrued liability and the actuarial value of assets is reduced.
    - Once established for any component of the UAAL, the amortization period for that component will be closed and will decrease by one year annually.
    - The amortization payment will be determined on a level percentage of pay basis.
    - The length of the amortization periods will be as follows:
        - Existing UAAL on December 31, 2014 – 30 years.
        - Any increase (or decrease) in the UAAL existing as of December 31, 2014 – remaining period of the initial 30-year period from the date of the valuation.
        - Annual future actuarial experience gains and losses – 30 years from the date of the valuation.
        - Future assumption changes – 30 years from the date of the valuation.
        - Future benefit enhancements/reductions – the number of years, as determined by the Board, to represent the anticipated duration of payment of the enhancement or, if a reduction, duration of the benefit to the plan. This determination will be based on the nature of the benefit change and the demographics of the membership group affected by the change, not to exceed 25 years from the date of the valuation.
    - If any future annual actuarial valuation indicates a division has a negative UAAL, the ADC shall be set equal to the Normal Cost until such time as the funded ratio equals or exceed 120%. At that time, the ADC shall be equal to the Normal Cost less an amount equal to 15 year amortization of the portion of the negative UAAL above the 120% funded ratio.
    - The target amortization period noted above regarding new UAAL will be applied for funding benchmark and RSI reporting purposes. Alternative ADCs, will be determined by division, by applying the layered amortization methodology as described above, using a 25-year closed period, a 20-year closed period, and a 15-year closed period, in lieu of the 30-year period, for amortization of new UAAL. These comparatives are to appear in the Comprehensive Annual Financial Report (CAFR) as a demonstration of the transparency and accountability funding goal delineated in Section III of this document.

In conjunction with the three major components discussed above, a number of actuarial assumptions are used to develop the annual actuarial metrics, as well as the ADC rates, and are described in detail in the annual actuarial valuation report. The actuarial assumptions are derived and proposed by the Board's actuary and adopted by the PERA Board of Trustees in conformity with the *Actuarial Standards of Practice* issued by the Actuarial Standards Board. The assumptions represent the Board's best estimate of anticipated experience under the benefit provisions of PERA and are intended to be long-term in nature. In the development of actuarial assumptions, the Board considers not only past experience but also trends, external economic forces, and future demographic and economic expectations.

- **Actuarial Assumptions—**Actuarial assumptions are generally grouped into two major categories:
  - **Demographic assumptions**, which include rates of termination, retirement, disability, mortality, etc., and
  - **Economic assumptions**, which include investment return, salary increase, payroll growth, and inflation, etc.

Actuarial assumptions do not impact the total cost of the plan (benefit payments and expenses), but rather the timing of prescribed contributions. To the extent that actuarial experience deviates from the assumptions, and actual contributions deviate from projected, experience gains and losses will occur. These gains (or losses) then serve to reduce (or increase) the projected future contributions necessary to achieve or sustain a certain actuarial standard. It is in this vein that the ADC rates may help indicate if the statutory contribution rates are adequate to meet the future cost requirements of the plan, although the ADC calculated in valuation results has limitations due to changing costs over time. In Colorado PERA's situation, until future scheduled contribution increases are fully realized, the results of the actuarial projections will be the best indication of the adequacy of the statutorily prescribed contribution schedule.

VI. Governance Policy/Processes—

As delineated in the **PERA *Governance Manual***, below is a list of specific actuarial and/or funding-related studies, the frequency at which they should be commissioned/requested by the Board, and additional responsibilities relating to the studies:

- **Actuarial Valuation** (perform annually)—The Board is responsible for reviewing PERA's annual actuarial valuation report; and submitting a summary report to the Legislative Audit Committee and the Joint Budget Committee of the General Assembly, together with any recommendations concerning such liabilities that have accrued. In addition, the Board, in consultation with the pension actuary, will provide recommendations to the Colorado General Assembly regarding any necessary adjustments to the statutory employer and member contribution rates.
- **Experience Analysis** (perform periodically, historically performed approximately every four years)—The Board is responsible for ensuring that an experience analysis is performed as prescribed, for reviewing the results of that study, and for approving the actuarial assumptions and methodologies to be used for all actuarial purposes relating to the defined benefit pension plans.
- **Actuarial Audit** (perform every five years, or the appointment of a new actuarial firm will satisfy requirement)—The Board is responsible for ensuring that an actuarial audit is performed as prescribed and for reviewing the results of that audit.

- **Asset Liability Study** (perform at least every three to five years, or more frequently if necessary)—The Board is responsible for ensuring that a study of the relationship between the defined benefit trust assets and liabilities is performed as prescribed and for reviewing the results of that study.
- Review of the **Defined Benefit Pension Plan Funding Policy** (perform periodically)—The Board is responsible for the periodic review of the defined benefit pension plan funding policy, as is deemed necessary.

VII. Glossary of Funding Policy Terms—

- **Actuarial Accrued Liability (AAL):** The AAL is the value at a particular point in time of all past normal costs. This is the amount of assets the plan would have today if the current plan provisions, actuarial assumptions, and participant data had always been in effect, contributions equal to the normal cost had been made, and all actuarial assumptions had been met. For each of the PERA defined benefit plans, the AAL includes the balance in the affiliated annual increase reserve.
- **Actuarial Cost Method:** The actuarial cost method allocates a portion of the total cost (present value of benefits) to each year of service, both past service and future service.
- **Annual Increase Reserve (AIR):** As of January 1, 2007, an AIR was created for each division trust fund for the purpose of funding annual increases for PERA Benefit Structure members hired on or after January 1, 2007. A portion of the employer contribution, equal to one percent of the salaries of affected members, is accumulated in the AIR to be paid out in annual increases each July 1, to the extent affordable. Although invested with the affiliated division assets, the reserve balances are accounted for separately.
- **Asset Values**: For each of the PERA defined benefit plans, the actuarial and market asset values include the balance in the affiliated AIR.
    - **Actuarial Value of Assets (AVA):** The AVA is the market value of assets less the deferred investment gains or losses not yet recognized by the asset smoothing method.
    - **Market Value of Assets (MVA):** The MVA is the fair value of assets of the plan as reported in the plan's audited financial statements.
- **Entry Age Normal Actuarial Cost Method (EAN):** The EAN actuarial cost method is a funding method that calculates the normal cost as a level percentage of pay or level dollar amount over the working lifetime of the plan's members.
- **Funded Ratio:** The funded ratio is the ratio of the plan assets to the plan's actuarial accrued liabilities.
    - **Actuarial Value Funded Ratio:** is the ratio of the AVA to the AAL.
    - **Market Value Funded Ratio:** is the ratio of the MVA to the AAL.
- **Normal Cost**: The normal cost is the cost allocated under the actuarial cost method to each year of active member service.

Schedule I – Colorado PERA Defined Benefit Pension Plan Funding Policy (continued)

- **Present Value of Benefits (PVB) or total cost:** The PVB is the value at a particular point in time of all projected future benefit payments for current plan members, plus the balance in the affiliated AIR. The future benefit payments and the value of those payments are determined using actuarial assumptions regarding future events. Examples of these assumptions are estimates of retirement and termination patterns, salary increases, investment returns, etc.
- **Surplus:** A surplus refers to the positive difference, if any, between the AVA and the AAL.
- **Unfunded Actuarial Accrued Liability (UAAL):** The UAAL is the portion of the AAL that is not currently covered by the AVA. It is the positive difference between the AAL and the AVA.
- **Valuation Date:** The valuation date is the annual date upon which an actuarial valuation is performed; meaning that the trust assets and liabilities of the plan are valued as of that date. PERA's annual valuation date is December 31st.

Adopted: March 20, 2015
Amended: n/a