

El Paso County Retirement Plan

Actuarial Valuation Report as of
January 1, 2016

May 2016



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Board of Retirement
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Certification of Actuarial Valuation

Ladies and Gentlemen:

This report summarizes the actuarial valuation results of the El Paso County Retirement Plan as of January 1, 2016 performed by Buck Consultants.

The actuarial valuation is based on draft assets as of December 31, 2015 provided by Stockman Kast Ryan & Co, LLP and member data provided by the Retirement Plan Administrator and summarized in this report. The benefits considered are those delineated in the Plan as amended and restated effective January 1, 2013.

All costs, liabilities and other factors under the Plan were determined in accordance with generally accepted actuarial principles and procedures, using an actuarial cost method which we believe is reasonable. This report fully and fairly discloses the actuarial position of the Plan.

Unless otherwise noted, where presented, references to "funded ratio" and "unfunded liability" are measured on an actuarial value of assets basis. It should be noted that the same measurement using market value of assets would result in different funded ratios and unfunded accrued liabilities. Moreover, the funded ratio presented is appropriate for evaluating the need and level of future contributions but makes no assessment regarding the funded status of the plan if the plan were to settle (i.e. purchase annuities) for a portion or all of its liabilities.

The actuarial assumptions used in the January 1, 2016 actuarial valuation are based on the results of an actuarial experience study for the period from January 1, 2008 to December 31, 2012, resulting in changes in actuarial assumptions adopted by the El Paso County Retirement Board to better reflect expected future experience. In selecting economic assumptions, the interest rate of 8% is based upon a review of the existing portfolio structure, a review of recent experience, and information from the Board. The salary increase assumption is based on actual experience and future expectations of inflation, merit and productivity components. In our opinion, the actuarial assumptions used are reasonable, taking into account the experience of the Plan and reasonable long-term expectations, and represent our best estimate of the

anticipated long-term experience under the Plan. A summary of the actuarial assumptions and methods used in this actuarial valuation are shown in Section 4.3. GASB No. 67 information is included in a separate report.

Use of this report for any other purposes or by anyone other than the Board members and staff may not be appropriate and may result in mistaken conclusions because of failure to understand applicable assumptions, methods, or inapplicability of this report for that purpose. The attached pages should not be provided without a copy of this cover letter. Buck will not accept any liability for any statement made about the report without prior review by Buck.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions or applicable law. Due to the limited scope of this report, Buck has performed no analysis of the potential range of such future differences.

Both of the undersigned are Associates of the Society of Actuaries and Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained in this report. This report has been prepared in accordance with all Applicable Actuarial Standards of Practice. We are available to answer any questions on the material contained in the report, or to provide explanations or further details as may be appropriate. Todd D. Kanaster has primary responsibility for the report.

Respectfully submitted,



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Purpose and Highlights

The main purposes of this report are:

1. To determine if the Board's funding policy for the Retirement Plan is being met considering current assets and the current employer and member contribution rates;
2. To review the current funded status of the Plan; and
3. To compare actual and expected experience under the Plan during 2015.

The 2016 actuarial valuation is based upon the plan provisions as of January 1, 2016; as described in Section 4.2. The actuarial methods and assumptions are described in Section 4.3.

The actuarial valuation is based on draft assets as of December 31, 2015 which were provided by Stockman Kast Ryan & Co, LLP.

Highlights from the current and prior valuations are:

1. A contribution rate of 8.0% of salary by both the participating employers and members (16% of salary in total) in 2016 will **not** be sufficient to meet the Retirement Board's funding policy of paying the normal cost and amortizing the unfunded actuarial accrued liability over 30 years from the valuation date. The total actuarially required contribution necessary to fund the Plan's benefits under the Board's funding policy for 2016 is 16.4% of salary. It is expected that future new members covered under the new tier of benefit provisions will likely reduce the actuarial deficit in future years.
2. The Market Value of Assets was sufficient to provide for 76.4% of the actuarial present value of accumulated plan benefits as of January 1, 2016 as compared with 82.5% as of January 1, 2015. Benefits are based on accrued service and current salary history as of the valuation date.
3. Actuarial losses were experienced in 2015 from asset sources and actuarial losses were experienced from liability sources, resulting in a net actuarial loss which increased the unfunded actuarial accrued liability by \$10,811,585. The net loss from liability sources of \$5,431,890 was primarily due to higher pay increases than expected, as well as service purchases. The rate of return on Actuarial Value of Assets of 6.3% in 2015 was lower than the 8% assumed investment return rate, resulting in the loss from asset sources of \$5,379,695.
4. The Actuarial Value of Assets was sufficient to provide for 70.0% of the Actuarial Accrued Liability as of January 1, 2016. This is a decrease of 0.9% from 70.9% as of January 1, 2015. This rate is called the Funded Ratio and is a measure of the current funding level of the plan under the Entry Age Actuarial Cost Method.

Summary of Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described in the section titled "Effects of Changes."

	Actuarial Valuation as of		Change Between Years	
	January 1, 2015	January 1, 2016	Amount	Percent
Summary of Costs				
Contribution Requirement	\$ 21,201,551	\$ 22,723,122	\$ 1,521,571	7.2%
Estimated Contributions	\$ 20,876,612	\$ 22,188,794	\$ 1,312,182	6.3%
Contribution Requirement as a Percentage of Pay	16.2%	16.4%	0.2%	1.2%
Funded Status				
Actuarial Accrued Liability	\$457,473,648	\$484,640,011	\$27,166,363	5.9%
Actuarial Value of Assets	\$324,497,273	\$339,106,141	\$14,608,868	4.5%
Unfunded Actuarial Accrued Liability/(Surplus)	\$132,976,375	\$145,533,870	\$12,557,495	9.4%
Market Value of Assets and Additional Liabilities				
Market Value of Assets	\$331,641,992	\$323,737,776	\$(7,904,216)	(2.4%)
Actuarial Present Value of Accumulated Plan Benefits (ASC 960)	\$401,874,411	\$423,724,683	\$21,850,272	5.4%
Present Value of Projected Plan Benefits	\$544,667,295	\$576,982,909	\$32,315,614	5.9%
Summary of Data				
Number of Members in Valuation:				
Active Members	2,566 ⁽¹⁾	2,585 ⁽²⁾	19	0.7%
Members with Deferred Benefits	371	365	(6)	(1.6%)
Retired Members	1,273	1,358	85	6.7%
Beneficiaries	107	108	1	0.9%
Total	4,317	4,416	99	2.3%
Active Member Statistics				
Total Annual Compensation	\$131,712,162 ⁽¹⁾	\$140,059,100 ⁽²⁾	\$ 8,346,938	6.3%
Average Compensation	\$ 51,404 ⁽³⁾	\$ 54,224 ⁽⁴⁾	\$ 2,820	5.5%
Average Age	44.7 ⁽³⁾	44.7 ⁽⁴⁾	0	0.0%
Average Service	8.2 ⁽³⁾	8.2 ⁽⁴⁾	0	0.0%

⁽¹⁾ Includes 25 members on leave of absence.

⁽²⁾ Includes 24 members on leave of absence.

⁽³⁾ Excludes 25 members on leave of absence.

⁽⁴⁾ Excludes 24 members on leave of absence.

Effects of Changes

Changes in Actuarial Assumptions

There were no changes in the actuarial assumptions since the prior valuation.

Changes in Plan Provisions

There were no changes in plan provisions since the prior valuation.

Changes in Actuarial Methods

There were no changes in actuarial methods since the prior valuation.

Section 1: Funding Results

- Section 1.1** A comparative summary of valuation results.
- Section 1.2** The actuarially required contribution.
- Section 1.3** The actuarial gain/(loss) during the preceding year.
- Section 1.4** The normal cost and unfunded actuarial accrued liability as of the current and preceding valuation dates.
- Section 1.5** The present value of projected plan benefits.
- Section 1.6** A ten-year projection of benefit payments.

Section 1.1 Comparative Summary of Principal Valuation Results

	Actuarial Valuation as of		Percent Change
	January 1, 2015	January 1, 2016	
A. Summary of Data			
1. Active Members			
a. Number ⁽¹⁾	2,566	2,585	0.7%
b. Annual Compensation ⁽¹⁾	\$ 131,712,162	\$ 140,059,100	6.3%
c. Average Annual Compensation ⁽²⁾	\$ 51,404	\$ 54,224	5.5%
d. Average Age ⁽²⁾	44.7	44.7	0.0%
e. Average Service ⁽²⁾	8.2	8.2	0.0%
f. Accumulated Member Contributions ⁽²⁾			
i. With Interest	\$ 76,514,860	\$ 79,349,323	3.7%
ii. Without Interest	\$ 60,671,518	\$ 63,618,046	4.9%
2. Refund of Employee Contributions due			
a. Number	62	56	(9.7%)
b. Amount of Refunds Due	\$ 291,177	\$ 279,503	(4.0%)
3. Vested Terminated Members			
a. Number ⁽³⁾	309	309	0.0%
b. Annual Deferred Benefits	\$ 3,068,075	\$ 2,832,557	(7.7%)
c. Average Annual Deferred Benefit	\$ 9,929	\$ 9,167	(7.7%)
4. Retired and Disabled Members			
a. Number	1,273	1,358	6.7%
b. Annual Retirement Benefits	\$ 22,390,356	\$ 24,723,896	10.4%
c. Average Annual Retirement Benefit	\$ 17,589	\$ 18,206	3.5%
5. Beneficiaries			
a. Number	107	108	0.9%
b. Annual Retirement Benefits	\$ 1,157,037	\$ 1,213,556	4.9%
c. Average Annual Retirement Benefit	\$ 10,813	\$ 11,237	3.9%
6. Total Members Included in Valuation	4,317	4,416	2.3%

⁽¹⁾ Includes 25 members on leave of absence in 2015 and 24 members on leave of absence in 2016.

⁽²⁾ Excludes 25 members on leave of absence in 2015 and 24 members on leave of absence in 2016.

⁽³⁾ Includes 17 deferred disableds and 4 deferred beneficiaries in 2015 and 13 deferred disableds and 3 deferred beneficiaries in 2016.

	Actuarial Valuation as of		Percent Change
	January 1, 2015	January 1, 2016	
B. Summary of Assets, Liabilities and Funded Status			
1. Plan Assets on Valuation Date			
a. Actuarial Value	\$ 324,497,273	\$ 339,106,141	4.5%
b. Market Value	\$ 331,641,992	\$ 323,737,776	(2.4%)
2. Actuarial Accrued Liability (Valuation Basis)	\$ 457,473,648	\$ 484,640,011	5.9%
a. Funded Ratio - Actuarial Value	70.9%	70.0%	(1.3%)
b. Funded Ratio - Market Value	72.5%	66.8%	(7.9%)
3. Unfunded Actuarial Accrued Liability (Based on Actuarial Value of Assets)	\$ 132,976,375	\$ 145,533,870	9.4%
4. Present Value of Accumulated Benefits (ASC 960)	\$ 401,874,411	\$ 423,724,683	5.4%
a. Funded Ratio - Actuarial Value	80.7%	80.0%	(0.9%)
b. Funded Ratio - Market Value	82.5%	76.4%	(7.4%)
5. Present Value of Projected Benefits	\$ 544,667,295	\$ 576,982,909	5.9%

	Actuarial Valuation as of				Percent Change in Amount
	January 1, 2014		January 1, 2015		
	Amount	% of Covered Comp.	Amount	% of Covered Comp.	
C. Summary of Contribution Requirements					
1. Normal Cost Compensation	\$ 130,478,820	N/A	\$ 138,679,959	N/A	6.3%
2. Total Normal Cost Beginning of Year	\$ 12,598,114	9.66%	\$ 13,323,018	9.61%	5.8%
3. Amortization of Unfunded Actuarial Accrued Liability over 30 years from the valuation date	\$ 7,999,937	6.13%	\$ 8,755,404	6.31%	9.4%
4. Administrative Expenses	\$ 603,500	0.46%	\$ 644,700	0.46%	6.8%
5. Total Actuarially Required Contribution (2. + 3. + 4.)	\$ 21,201,551	16.25%	\$ 22,723,122	16.39%	7.2%
6. Estimated Member Contribution ⁽¹⁾	\$ 10,438,306	8.00%	\$ 11,094,397	8.00%	6.3%
7. Recommended Employer Contribution (5. - 6.)	\$ 10,763,245	8.25%	\$ 11,628,725	8.39%	8.0%

⁽¹⁾ 8.00% of normal cost compensation.

Section 1.2 Actuarially Required Contribution

The actuarially required contribution has been determined using the Entry Age Normal Actuarial Cost Method.

	January 1, 2015	January 1, 2016
1. Normal Cost	\$ 12,598,114	\$ 13,323,018
2. Amortization of Unfunded Actuarial Accrued Liability	\$ 7,999,937	\$ 8,755,404
3. Administrative Expenses	\$ 603,500	\$ 644,700
4. Total Actuarially Required Contribution		
a. Amount (1. + 2. + 3.)	\$ 21,201,551	\$ 22,723,122
b. Percent of Normal Cost Payroll	16.2%	16.4%
5. Estimated Member Contribution ⁽¹⁾	\$ 10,438,306	\$ 11,094,397
6. Recommended Employer Contribution		
a. Amount (4.a. - 5.)	\$ 10,763,245	\$ 11,628,725
b. Percent of Normal Cost Payroll	8.2%	8.4%
7. Estimated Employer Contribution	\$ 10,438,306	\$ 11,094,397
8. Amount of Total Contribution in Excess of Actuarially Required Contribution/(Deficit) (7. - 6.a.)	\$ (324,939)	\$ (534,328)

⁽¹⁾ 8.00% of normal cost compensation.

Section 1.3 Actuarial Gain / (Loss)

The actuarial gain/(loss) is comprised of both the liability gain/(loss) and the actuarial asset gain/(loss). Each of these represents the difference between the expected and actual values as of January 1, 2016.

1. Expected Actuarial Accrued Liability	
a. Actuarial Accrued Liability at January 1, 2015	\$ 457,473,648
b. Normal Cost and expected Administrative Expenses at January 1, 2015	13,201,614
c. Interest on a. + b. to End of Year	37,654,021
d. Benefit Payments and Administrative Expenses for Plan Year Ending December 31, 2015, with Interest to End of Year Excluding Supplemental Payment	29,121,162
e. Expected Actuarial Accrued Liability Before Changes (a. + b. + c. - d.)	479,208,121
f. Change in Actuarial Accrued Liability at January 1, 2016, Due to Change in Actuarial Assumptions	0
g. Change in Actuarial Accrued Liability at January 1, 2016, Due to Change in Plan Provisions	0
h. Expected Actuarial Accrued Liability at January 1, 2016 (e. + f. + g.)	\$ 479,208,121
2. Actuarial Accrued Liability at January 1, 2016	\$ 484,640,011
3. Liability Gain/(Loss) (1.h. - 2.)	\$ (5,431,890)
4. Expected Actuarial Value of Assets	
a. Actuarial Value of Assets at January 1, 2015	\$ 324,497,273
b. Interest on a. to End of Year	25,959,782
c. Contributions Made for Plan Year Ending December 31, 2015	22,259,561
d. Interest on c. to End of Year	890,382
e. Benefit Payments and Administrative Expenses for Plan Year Ending December 31, 2015, with Interest to End of Year Excluding Supplemental Payment	29,121,162
f. Change in Actuarial Value of Assets at January 1, 2016 due to supplemental pension payment	0
g. Expected Actuarial Value of Assets at January 1, 2016 (a. + b. + c. + d. - e. - f.)	\$ 344,485,836
5. Actuarial Value of Assets as of January 1, 2016	\$ 339,106,141
6. Actuarial Asset Gain/(Loss) (5. - 4.g.)	\$ (5,379,695)
7. Actuarial Gain/(Loss) (3. + 6.)	\$ (10,811,585)

Section 1.4 Normal Cost and Unfunded Actuarial Accrued Liability

A. Normal Cost

The components of normal cost under the Plan's funding method are:

Component	January 1, 2015	January 1, 2016
Retirement Benefits	\$ 8,645,579	\$ 9,157,312
Withdrawal Benefits	3,454,122	3,633,580
Disability Benefits	275,656	291,830
Death Benefits	222,757	240,296
Total Normal Cost	\$ 12,598,114	\$ 13,323,018

B. Unfunded Actuarial Accrued Liability

The actuarial accrued liability is the present value of projected plan benefits allocated to past service by the actuarial funding method being used. The unfunded actuarial accrued liability is the excess of the actuarial accrued liability over the Actuarial Value of Assets.

Development of Actuarial Accrued Liability	January 1, 2015	January 1, 2016
1. Actuarial Accrued Liability		
a. Active Participants		
Retirement Benefits	\$ 193,471,069	\$ 199,089,055
Withdrawal Benefits	3,156,742	3,577,258
Disability Benefits	2,775,764	2,863,155
Death Benefits	3,261,941	3,306,385
Total	\$ 202,665,516	\$ 208,835,853
b. Participants with Deferred Benefits	22,937,434	20,364,089
c. Participants Receiving Benefits	231,870,698	255,440,069
d. Actuarial Accrued Liability (a. + b. + c.)	\$ 457,473,648	\$ 484,640,011
2. Actuarial Value of Assets	\$ 324,497,273	\$ 339,106,141
3. Unfunded Actuarial Accrued Liability (1.d. - 2., not less than \$0)	\$ 132,976,375	\$ 145,533,870

Section 1.5 Present Value of Projected Plan Benefits

The present value of projected benefits is the value of plan benefits using future earnings and service.

Present Value of Projected Benefits	January 1, 2015	January 1, 2016
1. Active Participants		
Retirement Benefits	\$ 252,359,905	\$ 261,551,125
Withdrawal Benefits	28,202,915	29,981,873
Disability Benefits	4,599,019	4,791,010
Death Benefits	4,697,324	4,854,743
Total	\$ 289,859,163	\$ 301,178,751
2. Participants with Deferred Benefits	22,937,434	20,364,089
3. Participants Receiving Benefits	231,870,698	255,440,069
4. Present Value of Projected Plan Benefits (1. + 2. + 3.)	\$ 544,667,295	\$ 576,982,909

Section 1.6 Ten-Year Projected Cash Flow

(Retirement Benefit Payments)

January 1, 2016			
Plan Year Ending	Actives	Retirees ⁽¹⁾	Total
12/31/2016	\$ 3,033,537	\$ 26,297,493	\$ 29,331,030
12/31/2017	5,285,728	26,226,434	31,512,162
12/31/2018	7,491,375	26,071,227	33,562,602
12/31/2019	9,656,215	25,890,368	35,546,583
12/31/2020	11,693,579	25,677,553	37,371,132
12/31/2021	\$ 13,485,693	\$ 25,440,213	\$ 38,925,906
12/31/2022	15,497,271	25,221,777	40,719,048
12/31/2023	17,606,227	24,943,461	42,549,688
12/31/2024	19,913,052	24,634,495	44,547,547
12/31/2025	22,274,594	24,291,364	46,565,958

⁽¹⁾ Includes Disabled Members, Beneficiaries, and Deferred Vested Members.

History of Refunds	
Year	Refund Amount
1993	\$ 633,773
1994	544,504
1995	976,233
1996	1,003,922
1997	1,037,519
1998	1,132,847
1999	1,292,444
2000	1,407,960
2001	1,597,686
2002	998,709
2003	1,414,807
2004	1,634,848
2005	1,755,564
2006	1,545,738
2007	1,841,048
2008	1,997,056
2009	1,912,000
2010	1,775,640
2011	2,222,415
2012	1,548,635
2013	2,152,586
2014	1,812,170
2015	2,669,776

Section 2 Accounting Results

Section 2.1 Information pertaining to the actuarial present value of accumulated plan benefits (ASC 960 basis).

Section 2.2 Historical Exhibits

Section 2.1 ASC 960 Information

A. Actuarial Present Value of Accumulated Plan Benefits

The actuarial present value of vested and nonvested accumulated plan benefits was computed on an ongoing plan basis in order to provide required information under ASC 960. In this calculation, a determination is made of all benefits earned by current participants as of the valuation date; the actuarial present value is then computed using demographic assumptions and an assumed interest rate. Assumptions regarding future salary and Social Security increases and accrual of future benefit service are not necessary for this purpose. Please note that ASC 960 is no longer applicable for public plans; however, we have provided results on that basis in order to facilitate comparison with earlier years.

Accumulated Plan Benefits	January 1, 2015	January 1, 2016
Vested Benefits		
• Active Participants	\$ 131,427,380	\$ 132,687,120
• Participants with Deferred Benefits	22,937,434	20,364,089
• Participants Receiving Benefits	231,860,698	255,440,069
Total Vested Benefits	\$ 386,225,512	\$ 408,491,278
Nonvested Benefits	15,648,899	15,233,405
Total Accumulated Plan Benefits	\$ 401,874,411	\$ 423,724,683
Assumed Rate of Interest	8.00%	8.00%
Market Value of Assets Available for Benefits	\$ 331,641,992	\$ 323,737,776
Funded Ratio	82.5%	76.4%
Change in Accumulated Plan Benefits Due to:		
• Assumption Changes	\$ 0	\$ 0
• Plan Provision Changes	\$ 0	\$ 0
Number of Members		
Vested Members		
• Active Participants	1,391	1,375
• Participants with Deferred Benefits	371 ⁽¹⁾	365 ⁽²⁾
• Participants Receiving Benefits	1,380 ⁽³⁾	1,466 ⁽⁴⁾
Total Vested Members	3,142	3,206
Nonvested Members	1,175	1,210
Total Members	4,317	4,416

⁽¹⁾ Includes 62 former members due a refund of contributions.

⁽²⁾ Includes 56 former members due a refund of contributions.

⁽³⁾ Includes 7 QDRO recipients.

⁽⁴⁾ Includes 7 QDRO recipients.

B. Statement of Changes in Accumulated Plan Benefits

A statement of changes in the actuarial present value of accumulated plan benefits (ASC 960 basis) follows. This statement shows the effect of certain events on the actuarial present value shown on the previous page.

Actuarial Present Value of Accumulated Plan Benefits as of January 1, 2015	\$ 401,874,411
Increase/(Decrease) During Year Attributable to:	
• Increase for interest due to decrease in discount period	\$ 32,184,074
• Benefits Paid	(27,333,365)
• Plan Provision and ASC 960 Application Changes	0
• Assumption Changes	0
• Benefits Accumulated and (Gains)/Loss	16,999,563 ⁽¹⁾
Net Increase/(Decrease)	\$ 21,850,272
Actuarial Present Value of Accumulated Plan Benefits as of January 1, 2016	\$ 423,724,683

⁽¹⁾ Includes approximately \$1,082,245 increase in liability due to purchases of service.

The benefits valued include all benefits -- retirement, preretirement death and vested termination -- payable from the Plan for employee service prior to the valuation date. Benefits are assumed to accrue/accumulate in accordance with the plan provisions.

Section 2.2 Historical Exhibits

Supplementary Schedules

The GASB has issued a statement; Financial Reporting for Defined Benefit and Note Disclosures for Defined Contribution Plans (GASB Statement No. 25). This standard was effective for periods between June 15, 1996 and June 15, 2013, and requires funding status to be measured based upon the actuarial funding method adopted by the El Paso County Board of Retirement. The method adopted is the Entry Age Normal Cost Method. The target value of assets is equal to the Actuarial Accrued Liability (AAL). The Actuarial Value of Assets was determined using techniques that smooth the effects of short-term volatility in the Market Value of investments over a five-year period. The actual value of assets is the Market Value. The current GASB standard, Statement No. 67, supersedes GASB Statement No. 25 in its entirety, beginning June 15, 2013.

A. Schedule of Funding Progress

The GASB Statement No. 25 liabilities and assets for years ending in 2004 through 2013 are shown below.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll [(b-a)/c]
01/01/2005	\$ 219,697,172	\$ 249,693,945	\$ 29,996,773	88.0%	\$ 92,757,865	32.3%
01/01/2006	\$ 234,660,873	\$ 270,180,072	\$ 35,519,199	86.9%	\$ 98,915,975	35.9%
01/01/2007	\$ 257,214,257	\$ 293,358,174	\$ 36,143,917	87.7%	\$ 103,402,651	35.0%
01/01/2008	\$ 285,740,434	\$ 312,549,096	\$ 26,808,662	91.4%	\$ 105,140,088	25.5%
01/01/2009	\$ 249,776,755	\$ 331,357,842	\$ 81,581,037	75.4%	\$ 102,703,108	79.4%
01/01/2010	\$ 282,841,807	\$ 354,376,983	\$ 71,535,176	79.8%	\$ 106,956,655	66.9%
01/01/2011	\$ 285,036,737	\$ 375,801,894	\$ 90,765,157	75.8%	\$ 112,232,244	80.9%
01/01/2012	\$ 280,213,871	\$ 393,086,243	\$ 112,872,372	71.3%	\$ 116,611,366	96.8%
01/01/2013	\$ 278,031,207	\$ 414,530,914	\$ 135,899,707	67.2%	\$ 115,762,200	117.4%
01/01/2014	\$ 301,765,407	\$ 434,464,401	\$ 132,698,994	69.5%	\$ 124,039,614	107.0%

B. Schedule of Employer Contributions

The GASB Statement No. 25 required contributions and actual percentages for years ending in 2004 through 2013 are shown below.

Schedule of Employer Contributions

Year Ended December 31	Annual Required Contribution ⁽¹⁾	Percentage Contributed
2004	\$ 5,951,443	92%
2005	\$ 6,551,304	87%
2006	\$ 7,387,051	83%
2007	\$ 8,158,839	77%
2008	\$ 7,724,074	82%
2009	\$ 10,945,353	56%
2010	\$ 9,603,845	75%
2011	\$ 10,733,979	74%
2012	\$ 11,299,311	77%
2013	\$ 13,574,900	66%

⁽¹⁾ Beginning of year.

Section 3 Plan Assets

This section presents information regarding plan assets as reported by the plan administrator or the auditor. The plan assets represent the portion of total plan liabilities which has been funded as of the valuation date.

Section 3.1 A summary of the Market Value of Assets.

Section 3.2 A reconciliation of the Market Value of Assets.

Section 3.3 The Actuarial Value of Plan Assets as of January 1, 2016.

Section 3.4 A history of the average annual rates of investment return.

Section 3.1 Summary of Assets

Asset Category	Market Value as of December 31, 2014		Market Value as of December 31, 2015	
	Amount	%	Amount	%
1. Cash and Short-Term Investments	\$ 13,467,805	4.0	\$ 3,696,710	1.1
2. Receivables				
a. Investment Distributions	\$ 0	0.0	\$ 0	0.0
b. Interest and Dividends	43,866	0.0	0	0.0
c. Investments Sold	519,026	0.2	10,731	0.0
d. Other Receivables	32,944	0.0	71,803	0.0
e. Total	\$ 595,836	0.2	\$ 82,534	0.0
3. Investments at Fair Value				
a. U.S. Treasury Notes	\$ 0	0.0	\$ 0	0.0
b. Fixed Income	62,867,173	19.0	52,347,698	16.2
c. Domestic Stocks and Equity	148,573,672	44.8	131,184,324	40.6
d. International Equity	45,989,059	13.9	58,321,610	18.0
e. Real Estate	43,805,028	13.2	61,471,141	19.0
f. Fund of Hedge Funds	16,579,068	5.0	16,546,660	5.1
g. Total	\$ 317,814,000	95.9	\$ 319,871,433	98.9
4. Fixed Assets	\$ 555,614	0.2	\$ 468,766	0.1
5. Total Assets	\$ 332,433,255	100.3	\$ 324,119,443	100.1
6. Liabilities				
a. Payable for Investments Purchased	\$ 556,603	0.2	\$ 51,568	0.0
b. Securities Lending Obligation in Excess of Collateral	0	0.0	0	0.0
c. Accounts Payable and Accrued Liabilities	234,660	0.1	330,099	0.1
d. Total	\$ 791,263	0.3	\$ 381,667	0.1
7. Net Assets for Pension Benefits [5. – 6.d.]	\$ 331,641,992	100.0	\$ 323,737,776	100.0

Section 3.2 Reconciliation of Assets

Transactions	2014 Plan Year	2015 Plan Year
Additions		
1. Contributions		
a. Contributions from Employers	\$ 10,321,799	\$ 10,638,797
b. Contributions from Plan Members	10,389,283	11,620,764
c. Total	\$ 20,711,082	\$ 22,259,561
2. Net Investment Income		
a. Interest and Dividends	\$ 3,556,063	\$ 3,027,206
b. Net Appreciation (Depreciation)	18,911,263	(3,938,048)
c. Miscellaneous	16,083	28,420
d. Total	\$ 22,483,409	\$ (882,422)
e. Investment Expense	\$ (886,013)	\$ (1,120,238)
f. Net Investment Income	\$ 21,597,396	\$ (2,002,660)
3. Total Additions	\$ 42,308,478	\$ 20,096,901
Deductions		
4. One-Time Adjustment*	\$ 0	\$ 160,000
5. Benefits and Expenses		
a. Retirement Benefits	\$ 21,847,461	\$ 23,582,687
b. Refund of Contributions	1,812,170	2,669,776
c. Death	1,100,275	1,080,902
d. Supplemental Payment	N/A	N/A
e. Administrative Expenses	589,681	667,752
6. Total Deductions	\$ 25,349,587	\$ 28,001,117
7. Net Increase	\$ 16,958,891	\$ (7,904,216)
8. Net Assets Held in Trust for Pension Benefits		
a. Beginning of Year	\$ 314,523,101	\$ 331,641,992
b. End of Year	\$ 331,641,992	\$ 323,737,776

*A one-time adjustment is included due to the finalization of assets as of 12/31/2014.

Section 3.3 Actuarial Value of Assets

Schedule of Asset Gains/(Losses)				
Year Ending December 31	Original Amount	Recognized in Prior Years	Recognized This Year	Recognized in Future Years
2011	\$ (25,953,761)	\$ (20,763,008)	\$ (5,190,753)	\$ 0
2012	10,836,183	6,501,711	2,167,237	2,167,235
2013	17,857,284	7,142,914	3,571,457	7,142,913
2014	(3,391,713)	(678,343)	(678,343)	(2,035,027)
2015	(28,304,357)	0	(5,660,871)	(22,643,486)
Total	\$ (28,956,364)	\$ (7,796,726)	\$ (5,791,273)	\$ (15,368,365)

Development of Actuarial Value of Assets	
1. Initial Actuarial Value of Assets as of January 1, 2015 (before corridor)	\$ 324,497,273
2. One-Time Adjustment (Decrease)*	\$ 160,000
3. Contributions	
a. Employers	\$ 10,638,797
b. Members	11,620,764
c. Total (a. + b.)	\$ 22,259,561
4. Decreases during Year	
a. Benefit Payments	\$ 24,663,589
b. Return of Member Contributions	2,669,776
c. Supplemental Payment	0
d. Non-investment Expenses	667,752
e. Total (a. + b. + c. + d.)	\$ 28,001,117
5. Expected Return at 8.0% on:	
a. Actuarial Value of Assets as of January 1, 2015	\$ 25,959,782
b. Item 2 (one-half year)	890,382
c. Item 3 (one-half year)	1,120,045
d. Item 6	571,578
e. Total (a. + b. - c. + d.)	\$ 26,301,697
6. Expected Actuarial Value of Assets as of December 31, 2015 (1. - 2. + 3.c. - 4.e. + 5.e.)	\$ 344,897,414
7. Unrecognized Asset Gain as of December 31, 2014	\$ 7,144,719
8. Expected Actuarial Value of Assets as of December 31, 2015, plus Previous Year's Unrecognized Asset Gain (6. + 7.)	\$ 352,042,133
9. Market Value of Assets as of December 31, 2015	\$ 323,737,776
10. 2015 Asset Gain/(Loss) (9. - 8.)	\$ (28,304,357)
11. Asset Gain/(Loss) to be Recognized as of December 31, 2015	\$ (5,791,273)
12. Initial Actuarial Value of Assets as of January 1, 2016 (6. + 11.)	\$ 339,106,141
13. Constraining Values:	
a. 80% of Market Value (9. x .8)	\$ 258,990,221
b. 120% of Market Value (9. x 1.2)	\$ 388,485,331
14. Actuarial Value of Assets as of January 1, 2016 (11.), but not less than (13.a.), nor greater than (13.b.)	\$ 339,106,141

*A one-time adjustment is included due to the finalization of assets as of 12/31/2014.

Section 3.4 Average Annual Rates of Investment Return

Year Ending	Actuarial Value		Market Value		
	December 31	Annual	Cumulative	Annual	Cumulative
1995		11.2%	11.2%	21.4%	21.4%
1996		12.0%	11.6%	16.4%	18.9%
1997		12.4%	11.9%	16.5%	18.1%
1998		14.0%	12.4%	11.4%	16.4%
1999		13.7%*	12.7%	4.8%	14.0%
2000		9.5%	12.1%	0.8%	11.7%
2001		5.7%	11.2%	(2.5%)	9.5%
2002		(2.4%)	9.4%	(8.0%)	7.2%
2003		3.0%	8.7%	26.3%	9.1%
2004		5.7%	8.4%	10.9%	9.3%
2005		6.9%	8.2%	5.9%	9.0%
2006		9.9%	8.4%	14.8%	9.5%
2007		12.1%	8.6%	7.3%	9.3%
2008		(11.5%)	7.1%	(28.1%)	6.1%
2009		15.6%	7.6%	16.1%	6.7%
2010		2.3%	7.3%	13.4%	7.1%
2011		0.0%	6.8%	(2.0%)	6.6%
2012		0.7%	6.5%	12.3%	6.9%
2013		10.4%	6.7%	14.4%	7.3%
2014		9.1%	6.8%	6.9%	7.2%
2015		6.3%	6.8%	(0.7%)	6.8%

* Includes change in Asset valuation method.

Section 4 Basis of Valuation

This section presents and describes the basis of the valuation. The census of participants, actuarial basis and provisions of the Plan are the foundation of the valuation, since these are the present facts on which the projection of benefit payments will depend. The valuation is based on the premise that the Plan will continue in existence.

Section 4.1 The participant data used for the actuarial valuation.

Section 4.2 The plan provisions valued in the actuarial valuation.

Section 4.3 The actuarial funding method, procedures and actuarial assumptions.

Section 4.1 Plan Participants

A. Participant Data Reconciliation

	Active Members	Inactive Members ⁽¹⁾				Total
		With Deferred Benefits ⁽²⁾	Retired Members	Disabled Members	Bene-ficiaries	
As of January 1, 2015	2,566	309	1,259	14	107	4,255
Age Retirements	(80)	(23)	102	-	1	-
Disability Retirements	-	(3)	-	3	-	-
Deaths Without Beneficiary	-	(1)	(12)	-	(2)	(15)
Deaths With Beneficiary	(2)	-	(6)	-	9	1
Nonvested Terminations	(19)	-	-	-	-	(19)
Vested Terminations	(46)	46	-	-	-	-
Rehires	9	(7)	(2)	-	-	-
Cashouts	(183)	(12)	-	-	-	(195)
Expiration of Benefits	-	-	-	-	(7)	(7)
Data Corrections	-	-	-	-	-	-
Net Change	(321)	-	82	3	1	(235)
New Entrants During the Year	340	-	-	-	-	340
As of January 1, 2016	2,585	309	1,341	17	108	4,360

⁽¹⁾ Excludes nonvested terminated members who are due a refund of member contributions as of the valuation date.

⁽²⁾ Includes 17 deferred disableds and 4 deferred beneficiaries in 2015 and 13 deferred disableds and 3 deferred beneficiaries in 2016.

B. Count of Active Members

Age ⁽¹⁾	Years of Service ⁽²⁾							Total
	0-4	5-9	10-14	15-19	20-24	25-29	Over 30	
Under 20	1	-	-	-	-	-	-	1
20-24	73	-	-	-	-	-	-	73
25-29	254	25	-	-	-	-	-	279
30-34	232	84	14	-	-	-	-	330
35-39	150	76	41	8	-	-	-	275
40-44	125	81	58	41	8	-	-	313
45-49	127	91	45	39	21	11	-	334
50-54	102	84	75	43	40	33	7	384
55-59	69	68	56	53	26	22	10	304
60-64	49	41	37	30	16	9	9	191
Over 65	12	17	19	12	11	3	3	77
Total	1,194	567	345	226	122	78	29	2,561

C. Average Compensation

Age ⁽¹⁾	Years of Service ⁽³⁾							Total
	0-4	5-9	10-14	15-19	20-24	25-29	Over 30	
Under 20	-	-	-	-	-	-	-	-
20-24	\$43,143	-	-	-	-	-	-	\$43,143
25-29	\$47,870	\$52,391	-	-	-	-	-	\$48,275
30-34	\$47,642	\$57,982	\$64,950	-	-	-	-	\$51,008
35-39	\$51,343	\$60,478	\$64,520	\$72,558	-	-	-	\$56,449
40-44	\$48,746	\$57,281	\$66,100	\$65,151	\$69,816	-	-	\$56,858
45-49	\$47,690	\$53,170	\$58,487	\$66,653	\$72,340	\$60,061	-	\$54,809
50-54	\$48,766	\$53,343	\$60,013	\$59,565	\$66,472	\$69,055	\$54,771	\$56,871
55-59	\$46,702	\$48,834	\$57,625	\$62,602	\$58,173	\$67,400	\$69,138	\$55,180
60-64	\$51,453	\$50,358	\$53,507	\$58,715	\$67,247	\$64,031	\$72,058	\$55,643
Over 65	\$49,275	\$49,599	\$65,817	\$52,369	\$61,390	\$71,217	\$100,853	\$58,506
Total	\$48,213	\$54,611	\$60,808	\$62,479	\$65,576	\$66,823	\$69,857	\$54,224

(1) Attained age last birthday.

(2) Attained service at valuation date. Excludes 24 members on leave of absence.

(3) Averages not shown for groupings of less than 3 members.

D. Inactive Members - Annual Benefits

Attained Age	Members With Deferred Benefits ⁽¹⁾		Retired Members ⁽²⁾		Beneficiaries	
	No.	Benefit	No.	Benefit	No.	Benefit
Under 50	137	\$ 1,332,372	5	\$ 190,644	3	\$ 17,854
50 - 54	84	989,282	46	1,607,760	1	38,118
55 - 59	64	641,557	143	3,763,163	6	119,210
60 - 64	22	159,199	291	6,029,865	11	123,916
65 - 69	2	21,269	350	6,116,683	21	222,231
70 - 74	-	-	242	3,590,166	20	228,207
75 - 79	-	-	128	1,705,090	15	177,075
80 - 84	-	-	81	955,699	16	192,188
Over 84	-	-	72	764,826	15	94,757
Total	309	\$ 3,143,679	1,358	\$ 24,723,896	108	\$ 1,213,556

⁽¹⁾ Includes 13 deferred disabled participants and 3 deferred beneficiaries.

⁽²⁾ Includes 17 disabled participants.

E. Participant Statistics

Inactive Participants as of January 1, 2016	No.	Amount of Annual Benefit
Participants Receiving Benefits		
• Retired	1,358	\$ 24,723,896
• Beneficiaries	108	1,213,556
Total	1,466	\$ 25,937,452
Participants with Deferred Benefits		
• Vested Terminated	293	\$ 2,587,726
• Beneficiaries	3	27,912
• Disabled	13	216,919
Total	309	\$ 2,832,557

Statistics for Active Participants	No.	Average		
		Age	Service ⁽¹⁾	Earnings
As of January 1, 2015				
• Continuing ⁽²⁾	2,160	46.0	9.4	\$ 53,389
• New ⁽³⁾	381	36.9	1.0	40,147
Total	2,541	44.7	8.2	\$ 51,404
As of January 1, 2016⁽²⁾				
• Continuing	2,196	45.8	9.2	\$ 55,801
• New ⁽³⁾	365	38.4	1.3	44,737
Total	2,561	44.7	8.2	\$ 54,224

⁽¹⁾ Service since date of hire.

⁽²⁾ Excludes 25 members on leave of absence in 2015 and 24 members on leave of absence in 2016.

⁽³⁾ Includes rehires.

Section 4.2 Summary of Plan Provisions

Effective Date and Plan Year

Originally effective September 1, 1967; the plan was last amended and restated effective January 1, 2013. The plan year is January 1, through December 31.

Administration

The plan is administered by the El Paso County Board of Retirement which consists of five voting members and two Associate members. The five voting members include the Treasurer of El Paso County, two non-elected employees of participating employers, and two registered electors of El Paso County appointed by the Board of County Commissioners.

Type of Plan

A self-administered defined benefit pension plan.

Employers Included

El Paso County, Colorado, El Paso County Health Department, Pikes Peak Library District, Office of the 4th Judicial District, El Paso County Board of Retirement.

Employees Included

A Covered Employee is any elected or appointed officer or any person employed by the employer who is defined as a full-time employee or a job-share employee by the employer. A Covered Employee participates in the plan on the first date of employment.

Service

Credited Service is the sum of Past Service, Membership Service and Purchased Service and is used in determining the amount of pension benefits and benefit eligibility. Past Service and Membership Service are periods of employment before and after September 1, 1967, respectively, and are measured in years and months. Past Service is limited to five years, and Purchased Service is also limited to 5 years and is subject to additional conditions.

Compensation

Total regular compensation excluding bonuses, extra pay, overtime, etc., but including any deferred compensation. The amount of compensation for plan purposes for any participant, who first became a participant on or after January 1, 1996, is limited in any year to a maximum of \$260,000 (as indexed).

Final Average Monthly Compensation

The average compensation of the highest paid 36 consecutive calendar months within the last 120 calendar months of Credited Service.

County Contributions

The County will contribute an amount that along with participant contributions will be sufficient to provide benefits provided by the plan and pay all administrative expenses of the plan. Such County contributions must at least match participant contributions.

Member Contributions

Effective January 1, 1986, members are required to make monthly contributions equal to 6% of earnings. This was increased to 6.5% effective January 1, 2010, 7.0% effective January 1, 2011, 7.5% effective January 1, 2012, and 8.0% effective January 1, 2014. The rate of interest credited on member contributions after July 1, 2005 is 3% per year monthly compounded annually, or such other rate as established by the Retirement Board.

Normal Form of Benefit

The Normal Form of Benefit provided by the plan is a 10-year certain and life annuity payable monthly.

Accrued Benefit

The benefit determined as for normal retirement payable at the member's normal retirement date considering current earnings and service.

Normal Retirement Benefit

Normal retirement date for a member hired before January 1, 2010 is the first of the month on or after attainment of age 62. Normal retirement date for a member hired between January 1, 2010 and December 31, 2012 is the first of the month on or after attainment of age 62, but not before the completion of 60 months of continuous service. Normal retirement date for a member hired after December 31, 2012 is the first of the month on or after attainment of age 62, but not before the completion of 96 months of continuous service.

If hired before January 1, 2010, the monthly benefit payable at normal retirement is equal to 2.22% times final average monthly compensation, times years of Credited Service earned through December 31, 2012 plus 2.00% times final average monthly compensation, times years of Credited Service earned on or after January 1, 2013.

If hired after December 31, 2009, the monthly benefit payable at normal retirement is equal to 2.00% times final average monthly compensation, times years of Credited Service.

If hired before January 1, 2013, such benefit will not be greater than 75% of the member's final average monthly compensation. If hired after December 31, 2012, such benefit will not be greater than 60% of the member's final average monthly compensation.

Late Retirement Benefit

The benefit is equal to the Normal Retirement Benefit, recognizing Credited Service and increased compensation to postponed retirement date.

Special Early Retirement Benefit

A member may elect to retire with a special early benefit if the sum of his age and years of employment equals at least 75 upon termination of employment. If hired between January 31, 2010 and December 31, 2012, the member must have five or more years of Credited Service. If hired after December 31, 2012, the member must have eight or more years of Credited Service. The benefit will be equal to his accrued benefit unreduced for early payment.

Regular Early Retirement Benefit

An active or vested terminated member may elect to retire on the first of any month after the attainment of age 55. If hired before January 1, 2013, the member must have five or more years of Credited Service. If hired after December 31, 2012, the member must have eight or more years of Credited Service. The benefit will be equal to his accrued benefit reduced by .25% per month for each month by which his early retirement date precedes age 62.

Terminated Vested Benefit

A member who terminates employment with five or more years of Credited Service if hired before January 1, 2013, or 8 years if hired after December 31, 2012, before he is eligible to receive immediate retirement benefits may elect to receive either his accumulated contributions, in lieu of all other benefits, or his vested accrued benefit payable at his normal retirement date. The member may also elect to receive a reduced benefit at an earlier commencement date.

A member who terminates employment before becoming vested is entitled to a refund of his accumulated contributions with interest.

Disability Benefit

An active member who becomes permanently and totally disabled under their employer's long-term disability insurance program, or Social Security disability, is entitled to receive a benefit payable at his normal retirement date. This benefit is based on his average monthly compensation for the calendar year prior to the calendar year in which disablement occurred and the Credited Service he would have accumulated to such retirement date. Payments will be made for ten years certain and life thereafter.

Death Benefit

Death of a Member Prior to Benefit Commencement

In the event a member, either actively accruing service, disabled or terminated vested, dies before payments commence, the following benefits shall be paid:

If such member is not vested at his death, there shall be paid the Beneficiary the member's accumulated contributions at the date of death.

If such member is vested at his death, one of the following death benefits shall be payable to his spouse, at her sole option:

Two times the member's accumulated contributions at the date of death; or

A monthly benefit, payable for life, in an amount equal to 60% of the member's Accrued Benefit on his date of death, reduced if the spouse is more than five years younger than the member. Such death benefit shall commence on the first day of the month coincident with or following the later of the date the member would have attained age 55 or date of death. If the member dies while in active service, on or after attainment of age 62, the surviving spouse is eligible to receive a monthly benefit payable for life as if the member retired the day before death and elected the 100% joint and survivor annuity.

Death After Retirement

A lump sum death benefit of \$3,000 is payable to the member's designated beneficiary. In addition, applicable benefits will be paid if the member has elected an option providing for payments to a beneficiary, or has elected the normal form of benefit and dies prior to having received benefits for 120 months, or prior to having received benefits equal to his total accumulated contributions as of the date of his retirement.

Optional Retirement Benefits

In lieu of the Normal Form of Benefit (10-year certain and life), a member may elect to receive an adjusted amount, payable for life only, or an amount payable as a 100% or 50% joint and survivor benefit. 100% and 50% joint and survivor benefits with benefits increases if beneficiary dies first are also available options.

Section 4.3 Summary of Actuarial Methods, Procedures and Assumptions

A. Entry Age Actuarial Cost Method

Liabilities and contributions shown in this report are computed using the **Entry Age** actuarial method of funding.

Sometimes called a “funding method,” this is a particular technique used by actuaries for establishing the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily the annual contribution to the plan is comprised of (1) the normal cost and (2) an amortization payment on the unfunded actuarial accrued liability.

Under the Entry Age Actuarial Cost Method, the **Normal Cost** is computed as the level percentage of pay which, if paid from the earliest time each Member would have been eligible to join the Plan if it then existed (thus, entry age) until his retirement or termination, would accumulate with interest at the rate assumed in the valuation to a fund sufficient to pay all benefits under the Plan.

The Normal Cost for the Plan is determined by summing individual results for each active Member and determining an average normal cost rate by dividing the summed individual normal costs by the total payroll of Members before assumed retirement age.

The **Actuarial Accrued Liability** under this method at any point in time is the theoretical amount of the fund that would have accumulated had annual contributions equal to the Normal Cost been made in prior years (it does not represent the liability for benefits accrued to the valuation date.) The **Unfunded Actuarial Accrued Liability** is the excess of the Actuarial Accrued Liability over the Actuarial Value of Plan Assets actually on hand on the valuation date.

Under this method experience gains or losses, i.e. decreases or increases in accrued liabilities attributable to deviations in experience from the actuarial assumptions, adjust the Unfunded Actuarial Accrued Liability.

B. Asset Valuation Method

The Actuarial Value of Assets is based on a five-year moving average of expected and actual market values determined as follows:

- at the beginning of each plan year, a preliminary expected actuarial asset value is calculated as the sum of the previous year’s actuarial value increased with a year’s interest at the Plan valuation rate, **plus** net cash flow (including investment expenses) adjusted for interest (at the same rate) to the end of the previous plan year, **plus** interest (at the same rate) on the prior year’s unrecognized asset bases to the end of the previous plan year;
- the expected asset value is set equal to the preliminary expected actuarial value plus the unrecognized investment gains and losses as of the end of the previous plan year;
- the difference between the expected asset value and the market value is the investment gain or loss for the previous plan year;

- the final actuarial asset value is the preliminary value plus 20% of the investment gains and losses for each of the five previous plan years, but in no case more than 120% of the market value or less than 80% of the market value,

C. Valuation Procedures

No actuarial liability is included for members who terminated nonvested prior to the valuation date, except those due a refund of contributions.

The compensation amounts used in the projection of benefits and liabilities were January 1, 2016 rates of pay.

In computing accrued benefits, average earnings were determined using actual earnings histories supplied by El Paso County.

No termination or retirement benefits were projected to be greater than the dollar limitation required by the Internal Revenue Code Section 415 for governmental plans.

D. Actuarial Assumptions

Interest: 8.0% per annum, compounded annually, net of investment expenses.

Mortality: The mortality assumption reflects expected future mortality improvement.

RP-2000 Mortality Table
 Projected Generationally
 with Scale AA
 Setback 1 Year for Females
 (Rates for 2016 only shown below)

Per 100 Members		
Age	Male	Female
20	0.03	0.01
25	0.03	0.02
30	0.04	0.02
35	0.07	0.04
40	0.09	0.05
45	0.12	0.08
50	0.16	0.12
55	0.27	0.21
60	0.52	0.41
64	0.90	0.71

Withdrawal:

Per 100 Members		
Svc	Male	Female
0	20.00	20.00
1	17.50	17.50
2	12.50	17.00
3	12.50	13.00
4	10.00	12.50
5	9.00	11.00
6	7.90	9.90
7	6.80	8.80
8	6.25	8.25
9	5.40	7.40
10	4.90	6.50
11	4.50	5.50
12	4.20	5.20
13	3.85	4.85
14	3.65	4.55
15	3.15	4.15
16+	3.00	4.00

Withdrawal rates are not applied after a member becomes eligible for retirement benefits.

Disability:

Disability rates are the rates at which active Plan members are expected to become disabled, and to be eligible for plan disability retirement. Sample rates are as follows:

Per 100 Members	
Age	Disablement
20	0.02
25	0.03
30	0.04
35	0.06
40	0.09
45	0.13
50	0.20
55+	0.35

Post-Disability Mortality:

Members who are receiving disability retirement benefits are expected to have a higher mortality risk than other retirees or active plan members. The disability mortality is based on the RP-2000 Disabled Mortality Table. Sample rates are as follows:

Per 100 Members		
Age	Male	Female
20	2.26	0.75
25	2.26	0.75
30	2.26	0.75
35	2.26	0.75
40	2.26	0.75
45	2.26	0.75
50	2.90	1.15
55	3.54	1.65
60	4.20	2.18
64	4.83	2.66

Salary Increase:

Anticipated salary increases include both inflationary and merit increases. Merit increases are anticipated to be greater earlier in a member's career. A composite

salary increase assumption based on service is, therefore, applied. Sample rates are as follows:

Service	Percentage Increase at Attained Service		
	Merit	Inflation	Total
0	4.12%	3.50%	7.76%
5	1.99	3.50	5.55
10	1.21	3.50	4.75
15	0.89	3.50	4.42
20	0.56	3.50	4.08
25+	0.24	3.50	3.75

Salary Limit Increase: 3.50% per year.

Refund Assumption For Active Members Who Withdraw:

Service	Percent Electing Refund
0-4	100%
5	40%
6	35%
7	30%
8	25%
9	25%
10+	25%

Retirement Rates: According to the following table based on eligibility for reduced or unreduced retirement benefits.

Attained Age	Per 100 Members	
	Unreduced	Reduced
49 & Before	30	-
50	35	-
51	20	-
52	20	-
53	20	-
54	20	-
55	25	15
56	15	5
57	15	5
58	15	10
59	15	10
60	20	10
61	25	10
62	30	-
63	20	-
64	20	-
65	25	-
66	25	-
67-69	20	-
70-74	40	-
75+	100	-

Expense Loading: Loading for administrative expenses is based on an estimate for the year, provided by the Retirement Board. For 2016, the administrative expense loading is \$644,700.

Percent Married: 85% of all members are assumed to have eligible spouses.

Age Difference: A husband is assumed to be three years older than his wife

Age for Commencement of Deferred Vested Benefits: Active Members: 55
Terminated Members: 57, or earlier if eligible for Rule of 75 before age 57

Amortization of the Unfunded Actuarial Accrued Liability: The unfunded actuarial accrued liability is amortized as a level percent of payroll over an open amortization period of 30 years. Payroll is assumed to increase 3.5% per year for this purpose.