Retirement Plan for Sacramento Regional Transit District Salaried Employees

Actuarial Valuation Report as of July 1, 2017

Produced by Cheiron

March 2018

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March 14, 2018

Retirement Boards of
Sacramento Regional Transit District
2830 G Street
Sacramento, CA 95816

Dear Members of the Boards:

At your request, we have conducted an actuarial valuation of the Retirement Plan for Salaried Employees of the Sacramento Regional Transit District Employees (SacRT, the Fund, the Plan) as of July 1, 2017. This report contains information on the Plan's assets and liabilities. This report also discloses employer contribution levels. Your attention is called to the Foreword in which we refer to the general approach employed in the preparation of this report.

The purpose of this report is to present the results of the annual actuarial valuation of the Plan. This report is for the use of the Retirement Boards and the auditors in preparing financial reports in accordance with applicable law and accounting requirements. Any other user of this report is not an intended user and is considered a third party.

This report was prepared solely for the Retirement Boards for the purposes described herein, and for the use by the plan auditor in completing an audit related to the matters herein. Other users of this report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to any such party.

To the best of our knowledge, this report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.

Sincerely,
Cheiron

David Holland, FSA, FCA, MAAA, EA
Consulting Actuary

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Consulting Actuary

FOREWORD

Cheiron has performed the actuarial valuation of the Retirement Plan for Sacramento Regional Transit District Employees as of July 1, 2017. The valuation is organized as follows:

- In Section I, the **Executive Summary,** we describe the purpose of an actuarial valuation, summarize the key results found in this valuation, and disclose important trends.

- The **Main Body** of the report presents details on the Plan's

    - Section II - Assets
    - Section III - Liabilities
    - Section IV- Contributions

- In the **Appendices,** we conclude our report with detailed information describing plan membership (Appendix A), actuarial assumptions and methods employed in the valuation (Appendix B), a summary of pertinent plan provisions (Appendix C), and a glossary of key actuarial terms (Appendix D).

Future results may differ significantly from the results of the current valuation presented in this report due to such factors as the following: plan experience differing from that anticipated by the assumptions; changes in assumptions; and, changes in plan provisions or applicable law.

In preparing our report, we relied on information (some oral and some written) supplied by the District's staff. This information includes, but is not limited to, plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

SECTION I – EXECUTIVE SUMMARY

The primary purpose of the actuarial valuation and this report is to measure, describe, and identify the following as of the valuation date:

- The financial condition of the Plan,
- Past and expected trends in the financial progress of the Plan, and
- Employer contribution rates for Plan Year 2018-2019.

The information required under GASB Statements (Nos. 67 and 68) is included in a separate report, with the report for the Fiscal Year Ending June 30, 2017 provided to the Boards in September 2017.

In the balance of this Executive Summary, we present (A) the basis upon which this year's valuation was completed, (B) the key findings of this valuation including a summary of all key financial results, (C) an examination of the historical trends, and (D) the projected financial outlook for the Plan.

A. Valuation Basis

This valuation determines the employer contributions for the plan year.

The Plan's funding policy is to contribute an amount equal to the sum of:

- The normal cost under the Entry Age Normal Cost Method,
- Amortization of the Unfunded Actuarial Liability, and
- The Plan's expected administrative expenses.

This valuation was prepared based on the plan provisions shown in Appendix C. There have been no changes in plan provisions since the prior valuation.

A summary of the assumptions and methods used in the current valuation are shown in Appendix B. There have been changes to assumptions since the prior valuation. There have been no changes in methods since the prior valuation.

B. Key Findings of this Valuation

The key results of the July 1, 2017 actuarial valuation are as follows:

- The actuarially determined employer contribution rate increased from 32.54% of payroll last year to 34.30% of payroll for the current valuation, reflecting a three-year phase-in of the impact of changes to the economic assumptions adopted for the July 1, 2017 valuation. Without the phase-in, the employer contribution rate would have increased to 35.43% of payroll.

- The Plan's funded ratio, the ratio of actuarial assets over Actuarial Liability, decreased from 65.0% last year to 64.4% as of July 1, 2017. The unfunded liability also increased as a dollar amount. As a point of comparison, a funding ratio of 58.1% or more is required just to fund the liabilities of the inactive members: retired, disabled, terminated with vested benefits, and their beneficiaries. This is sometimes referred to as the Inactive Funded Ratio.

- The Unfunded Actuarial Liability (UAL) is the excess of the Plan's Actuarial Liability over the Actuarial Value of Assets. The Plan experienced an increase in the UAL from $43,011,087 to $47,301,118 as of July 1, 2017. This increase in UAL was primarily due to the assumption change lowering the discount rate and inflation rate to 7.25% and 3.00%, respectively, and a demographic experience loss.

- During the year ended June 30, 2017, the return on Plan assets was 12.47% on a market value basis net of investment expenses, as compared to the 7.50% assumption. This resulted in a market value gain on investments of $3,742,109. The Actuarial Value of Assets recognizes 20% of the difference between the expected and actual return on the Market Value of Assets (MVA). This method of smoothing the asset gains and losses returned 7.61% on the smoothed value of assets, an actuarial asset gain of $85,065.

- The Actuarial Value of Assets is currently 101.24% of the market value. Since actuarial assets are above market assets, there are unrecognized investment losses (approximately $1.1 million) that will be reflected in the smoothed value in future years.

- The Plan experienced a loss on the Actuarial Liability of $1,495,305. Combining the liability gain and the asset loss, the Plan experienced a total loss of $1,410,240.

- There were 15 new hires and rehires since July 1, 2016 and the total active population decreased by 21. Total projected payroll decreased 3.23% from $23,952,817 to $23,179,191 for 2017-2018.

- The assumed rate of return and inflation assumption were changed by the Boards from 7.50% and 3.15%, respectively, to 7.25% and 3.00%.

SECTION I – EXECUTIVE SUMMARY

Table I-1 summarizes the key results of the valuation with respect to membership, assets and liabilities, and contributions. The results are presented and compared for both the current and prior plan year. For the current year, we also have presented under both the current and prior assumptions. Finally, we have presented the employer contribution rate both before and after the phase in of the effect of assumption changes adopted as of July 1, 2015 and the adopted three-year phase-in for the changes adopted as of July 1, 2017.

Table I-1
Summary of Principal Plan Results

	Prior Results	Prior Assumptions		Current Assumptions	
Valuation Date	**July 1, 2016**	**July 1, 2017**	**% Change**	**July 1, 2017**	**% Change**
Participant Counts					
Active Participants	244	223	-8.61%		
Participants Receiving a Benefit	250	283	13.20%		
Terminated Vested Participants	47	55	17.02%		
Transferred Participants	73	69	-5.48%		
Total	**614**	**630**	**2.61%**		
Annual Pay of Active Members	$ 23,952,817	$ 23,212,947	-3.09%	$ 23,179,191	-3.23%
Assets and Liabilities					
Actuarial Liability (AL)	$ 122,730,230	$ 129,877,492	5.82%	$ 132,986,393	8.36%
Actuarial Value of Assets (AVA)	79,718,423	85,685,275	7.48%	85,685,275	7.48%
Unfunded Actuarial Liability (UAL)	$ 43,011,807	$ 44,192,217	2.74%	$ 47,301,118	9.97%
Funded Ratio (AVA)	65.0%	66.0%	1.02%	64.4%	-0.52%
Market Value of Assets (MVA)	$ 75,337,019	$ 84,632,310	12.34%	$ 84,632,310	12.34%
Funded Ratio (MVA)	61.4%	65.2%	3.78%	63.6%	2.26%
Inactive Funded Ratio	51.7%	58.3%	6.59%	58.1%	6.41%
Contributions					
Employer Contribution (Beginning of Year)	$ 7,460,170	$ 7,447,061	-0.18%	$ 7,818,182	4.80%
Employer Contribution Payable Monthly	$ 7,734,869	$ 7,721,277	-0.18%	$ 8,096,632	4.68%
Employer Contribution as a Percentage of Payroll (before phase in)	32.78%	33.73%	0.95%	35.43%	2.65%
Employer Contribution as a Percentage of Payroll (after phase in)	32.54%			34.30%	1.76%

C. Changes in Plan Cost

Table I-2 summarizes the impact of actuarial experience and changes in benefits on Plan cost prior to the reduction for phasing in the new assumption changes over three years.

Table I-2
Employer Contribution Reconciliation - No Phase In

Item	Total	Normal Cost	UAL Amortization	Admin Expense
FYE 2018 Employer Contribution Rate	32.54%			
Change due to phase-in	0.24%			
FYE 2018 Actuarial Contribution Rate	32.78%	16.00%	15.58%	1.20%
Change due to asset gains	-0.03%	0.00%	-0.03%	0.00%
Change due to PEPRA New Entrants	-0.84%	-0.84%	0.00%	0.00%
Change due to demographic losses	0.46%	0.00%	0.45%	0.01%
Change due to amortization payroll	1.22%	0.00%	1.14%	0.08%
Change due to contribution shortfall	0.14%	0.00%	0.14%	0.00%
Change due to assumption changes	1.70%	0.56%	1.14%	0.00%
FYE 2019 Employer Contribution Rate	35.43%	15.72%	18.42%	1.29%

An analysis of the cost changes from the prior valuation reveals the following:

- Asset experience produced an investment gain on an actuarial basis.

  The actuarial return on assets was 7.61%, higher than the assumed rate of 7.50%. This resulted in a decrease in the contribution rate by 0.03% of payroll.

  The Market Value of Assets is lower than the actuarial value; there are approximately $1.1 million in deferred asset losses.

- Demographic experience resulted in a net decrease in cost.

  The demographic experience of the Plan – rates of retirement, death, disability, and termination – was somewhat different than predicted by the actuarial assumptions in aggregate, causing an actuarial loss which increased the contribution rate by 0.46% of payroll. In particular, there were losses caused by lower mortality rates than expected among retirees, and larger salary increases than expected for returning members.

  This was offset by the fact that the employer portion of the normal cost for the new hires under the PEPRA benefit formula is lower than the normal cost for the non-PEPRA membership, which contributed to an overall decrease in the employer normal cost rate of 0.84% of payroll.

  The net impact on the contribution rate from changes in demographics was a decrease of 0.38% of payroll.

- Overall payroll growth was less than expected.

  Slower than expected growth in the projected payroll increased the contribution rate by 1.22% of pay, since it results in the Plan's Unfunded Actuarial Liability and administrative expenses being spread over a smaller payroll base.

- Contributions did not meet expectations.

  Actual contributions fell short of expected employer and member contributions, which resulted in an increase in the contribution rate by 0.14%.

- Assumptions were changed.

  The assumed rate of return and inflation assumption were changed by the Boards from 7.50% and 3.15%, respectively, to 7.25% and 3.00%, causing an increase in cost of 1.70%.

  However, the Board elected to phase-in the impact of the assumption change over a three-year period – therefore only 0.57% of the increase was included in the phase-in contribution rate FYE 2019.

The total impact on employer Plan cost is an increase of 2.65% of pay, prior to the phase-in.

Table I-3 summarizes the impact on Plan cost of phasing in the 2017 assumption changes over three years.

Table I-3
Employer Contribution Reconciliation - Projected 3-Year Phase In

Item	Full Contribution	Phased Contribution
FYE 2019 Employer Contribution Rate	35.43%	34.30%
FYE 2020 Employer Contribution Rate	35.36%	34.80%
FYE 2021 Employer Contribution Rate	35.39%	35.50%
FYE 2022 Employer Contribution Rate	35.13%	35.31%

The net impact on the contribution rate due to assumption changes adopted by the Boards, effective July 1, 2017, was an increase of 1.70%. The Boards chose to phase in this increase over three years, or 0.57 % annually. This results in a FYE 2019 Net Employer Contribution Rate of 34.30%, based on an original rate of 35.43% minus the 1.13% phase-in.

SECTION I – EXECUTIVE SUMMARY

Table I-4 below shows the ratio of assets to active member payroll for the Plan.

Table I-4 Asset to Payroll Ratio as of June 30, 2017	
Active Member Payroll	23,179,191
Assets (Market Value)	84,632,310
Ratio of Assets to Payroll	3.65
Ratio with 100% Funding	5.74

One of the most important measures of a plan's risk is the ratio of plan assets to payroll. The table above shows the Plan's assets as a percentage of active member payroll. This ratio indicates the sensitivity of the plan to the returns earned on plan assets. We note in the table that plan assets currently are nearly four times covered payroll for the Plan; as funding improves and the Plan reaches 100% funding, the ratio of asset to payroll will increase to nearly six times payroll, perhaps higher depending on the Plan's future demographic makeup. Although, both of these ratios are lower than those of many other public plans, the increase in the asset to payroll ratio expected to accompany an improvement in the Plan's funding still represents a substantial increase in the volatility of the contributions.

To appreciate the impact of the ratio of assets to payroll on plan cost, consider the situation for a new plan with almost no assets. Even if the assets suffer a bad year of investment returns, the impact on the plan cost is nil, because the assets are so small.

On the other hand, consider the situation for the Plan. Suppose the Plan's assets lose 10% of their value in a year. Since they were assumed to earn 7.25%, there is an actuarial loss of 17.25% of plan assets. Based on the current ratio of asset to payroll (365%), that means the loss in assets is about 63% of active payroll (365% of the 17.25% loss). There is only one source of funding to make up for this loss: contributions. Consequently, barring future offsetting investment gains, the employer has to make up the asset loss in future contributions. In this example of a one-year loss of 10%, this shortfall would eventually require an additional amortization payment near 5.7% of payroll, amortized over 15 years.

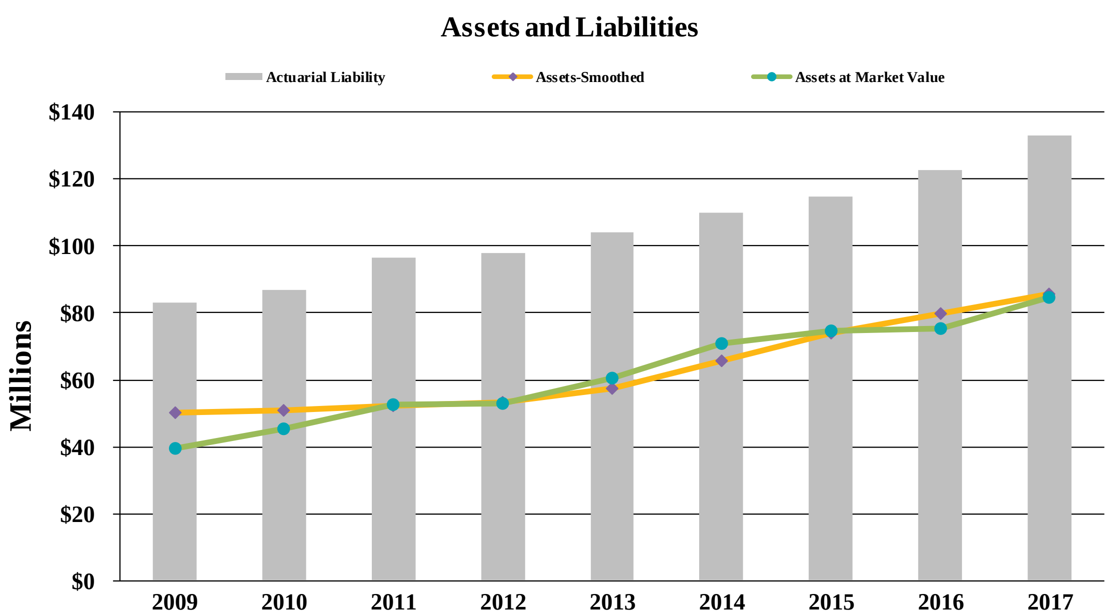
Furthermore, consider the impact of a one-year loss of 10% if the plan is 100% funded. Based on the ratio of asset to payroll at 100% funding (574%), the asset loss would be about 99% of active payroll (574% of the 17.25% loss). In this example, the shortfall could require an additional amortization payment of approximately 8.9% of payroll, amortized over 15 years.

D. Historical Trends

Despite the fact that for most retirement plans the greatest attention is given to the current valuation results and in particular, the size of the current Unfunded Actuarial Liability and the employer contribution, it is important to remember that each valuation is merely a snapshot in the long-term progress of a pension fund. It is more important to judge a current year's valuation result relative to historical trends, as well as trends expected into the future.

<u>Assets and Liabilities</u>

The chart compares the Market Value of Assets (MVA) and Actuarial Value of Assets (AVA) to the Actuarial Liabilities. The percentage shown in the chart below the graph is the ratio of the Actuarial Value of Assets to the Actuarial Liability (the funded ratio). The funded ratio decreased from 60.5% in 2009 to 54.1% in 2011, and continued to increase to 65.0% in 2016 primarily as a result of the recovery in the investment markets. The funded ratio slightly dropped to 64.4% as of July 1, 2017 due to an increase in liabilities from the economic assumption changes.

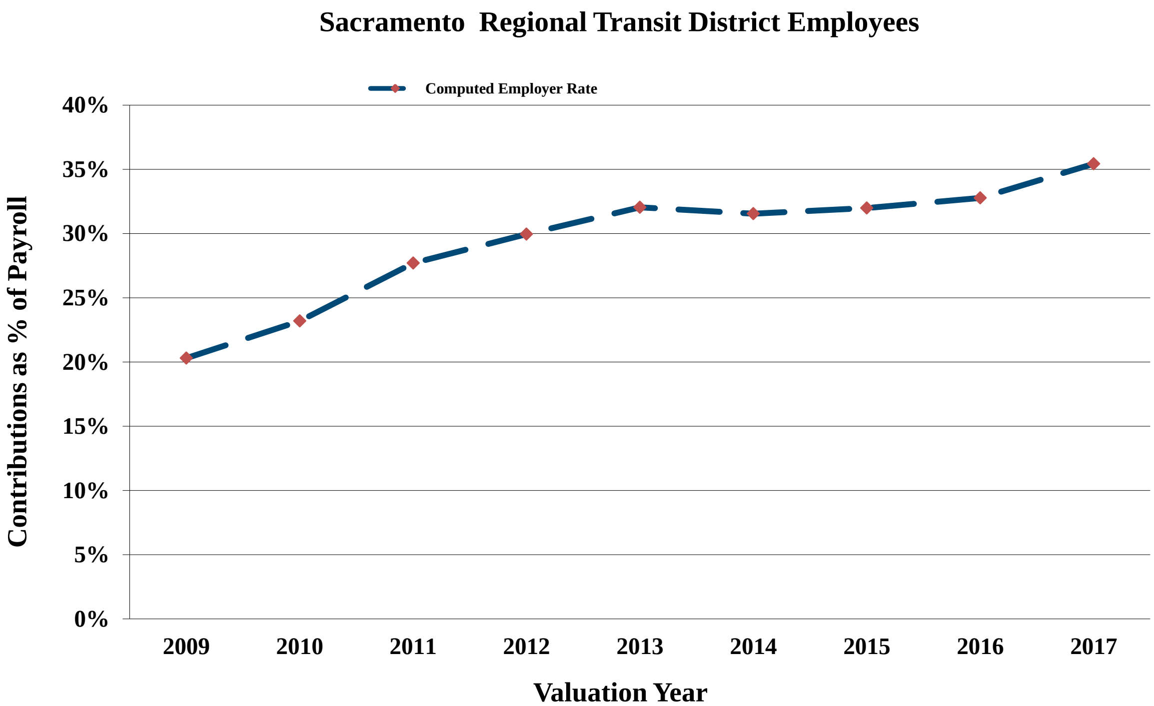


Valuation Year	2009	2010	2011	2012	2013	2014	2015	2016	2017
AVA Funded Ratio	60.5%	58.7%	54.1%	54.5%	55.2%	59.5%	64.3%	65.0%	64.4%
UAL (Millions)	$ 32.8	$ 35.9	$ 44.3	$ 44.5	$ 46.6	$ 44.5	$ 41.0	$ 43.0	$ 47.3

SECTION I – EXECUTIVE SUMMARY

Contribution Trends

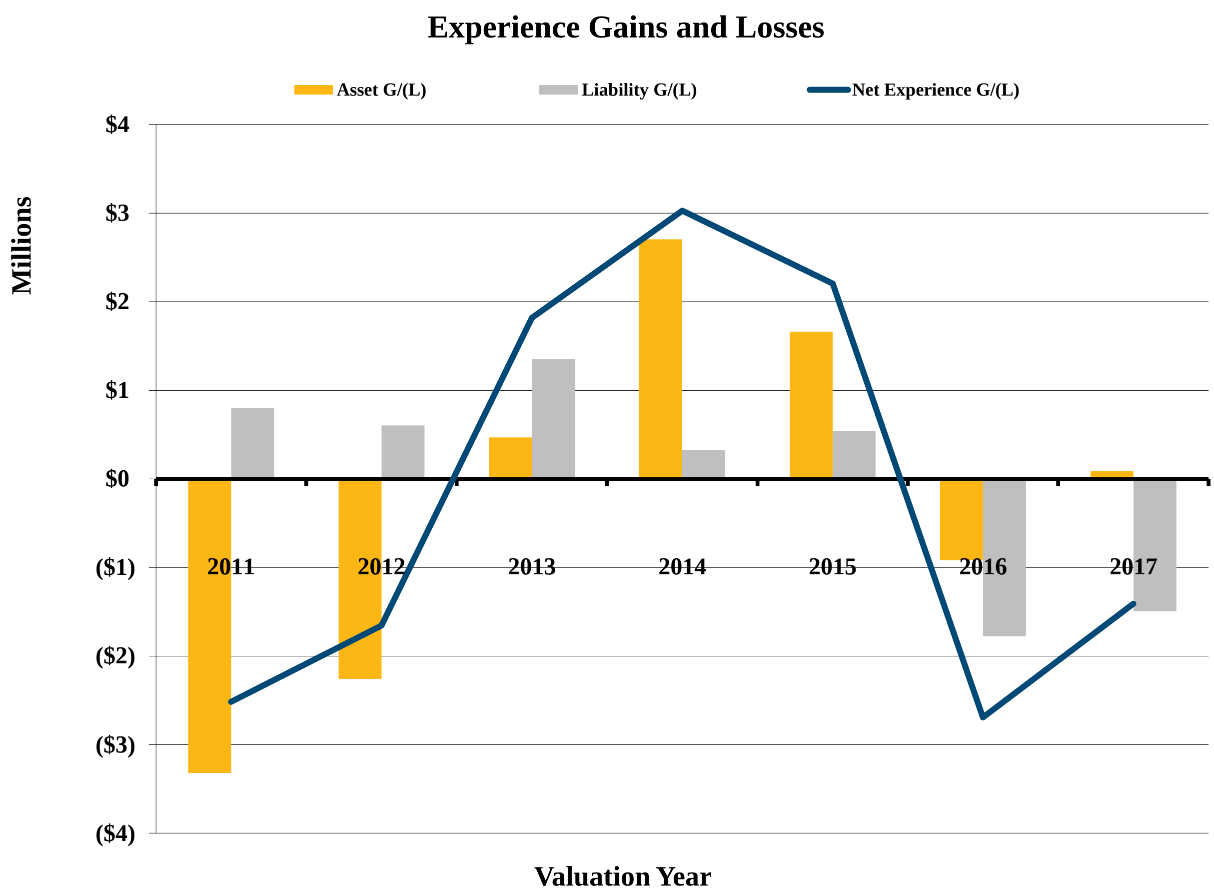
In the following chart, we present the historical trends for the Plan's actuarially determined contribution rates (excluding the impact of any phase-in of assumption changes.) Contribution rates increased from 2008 through 2013 as losses from the 2009 Fiscal Year were recognized and assumptions were changed. Contribution rates remained relatively stable from 2013 to 2016, with an increase in 2017 due to the change in assumptions as well as the decrease in projected payroll.



SECTION I – EXECUTIVE SUMMARY

Gains and Losses

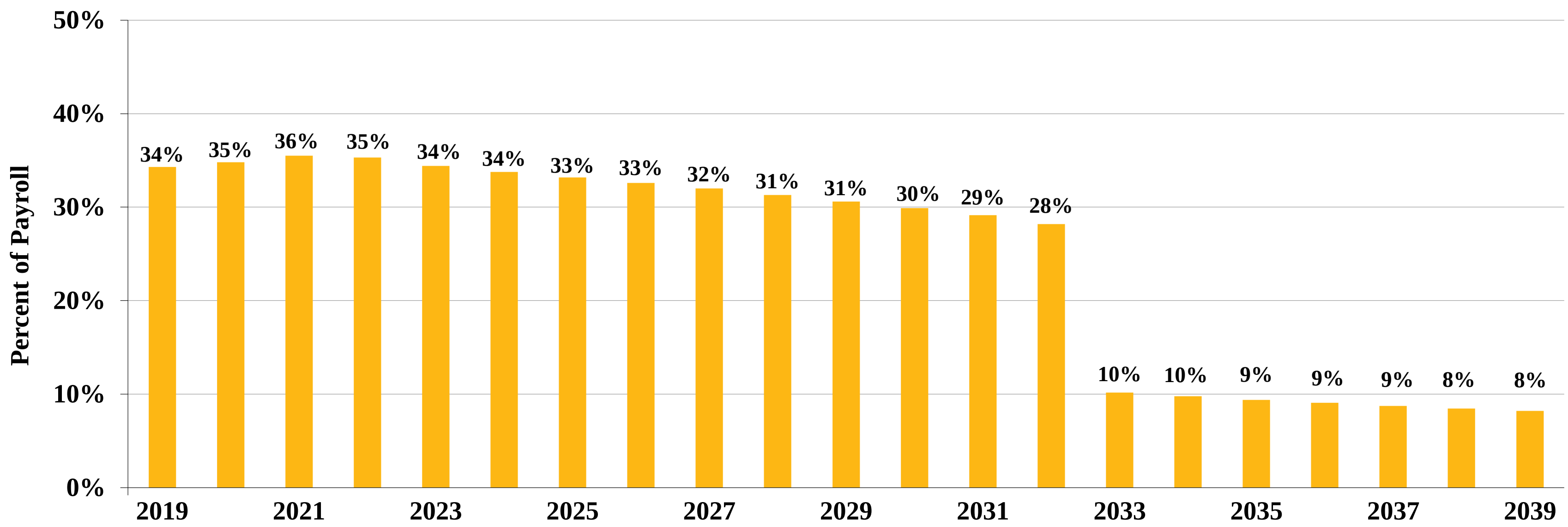
The following chart presents the pattern of annual gains and losses for the overall Plan, broken into the investment and liability components. The investment gains and losses represent the changes on a smoothed basis (i.e., based on the Actuarial Value of Assets). The chart does not include any changes in the Plan's assets and liabilities attributable to changes to actuarial methods, assumptions or plan benefit changes.



E. Future Expected Financial Trends

The analysis of projected financial trends is perhaps the most important component of this valuation. In this Section, we present our assessment of the implications of the July 1, 2017 valuation results in terms of benefit security (assets over liabilities) and contribution levels. All the projections in this section are based on the assumption that the Plan will exactly achieve the 7.25% assumption each year, which is clearly an impossibility. We have also assumed future salary increases of 3.00% per year.

Projection of Employer Contributions 7.25% return each year



The contribution rate graph shows that the District's contributions are expected to increase slightly over the next few years as the assumption change impact gets phased-in. Costs are expected to decline thereafter since the employer-paid portion of the normal cost decreases as PEPRA membership increases. The employer contribution rate is expected to decline substantially in FYE 2032 once the current unfunded liability is fully amortized. The dollar actuarial cost is expected to be approximately $8.2 million in 2018-2019, growing as pay increases to around $9.9 million in 2031-32, then dropping significantly the following years when the unfunded

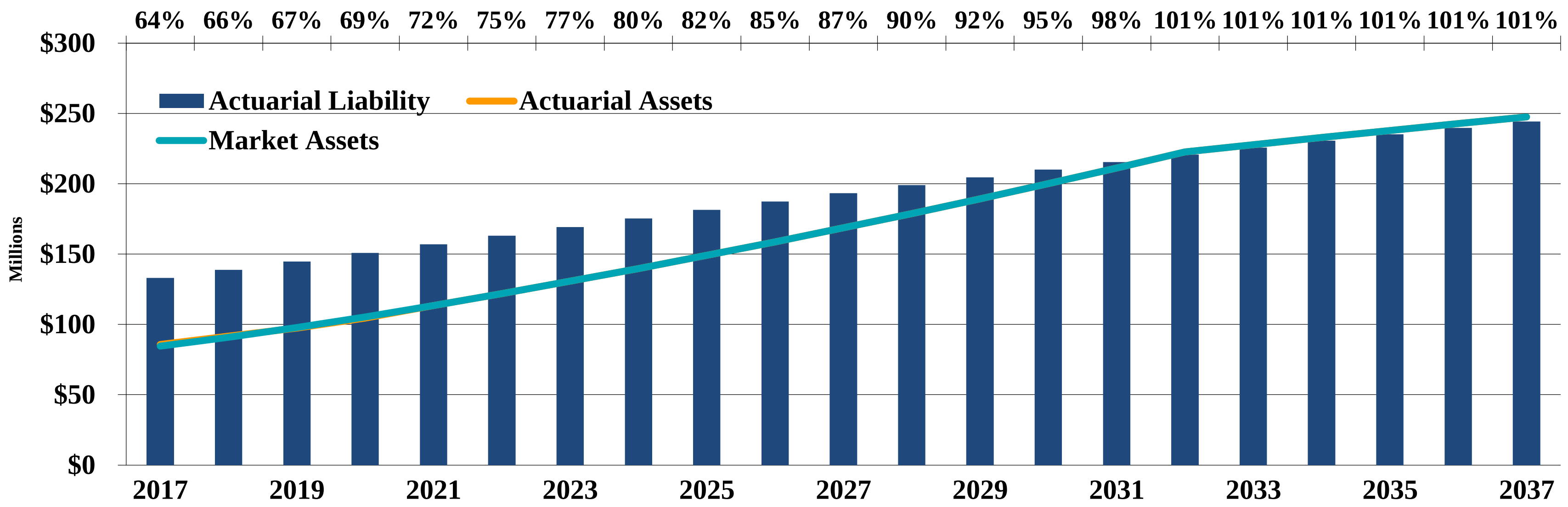
SECTION I – EXECUTIVE SUMMARY

liability amortization payment disappears, at which point the cost will approach the level of the employer's share of the normal cost and administrative expenses.

Note that the graph on the prior page does not forecast any actuarial gains or losses or changes to the assumptions or funding policy. Even relatively modest losses relative to the 7.25% assumed return could push the employer contribution rate up to 37% of pay or higher over the next few years.

The following graph shows the projection of assets and liabilities assuming that assets will earn the 7.25% assumption each year during the projection period. The graph shows that the funded status is expected increase over the next 15 years as the current unfunded liability is fully amortized, assuming the actuarial assumption is achieved. However, as above, it is the actual return on Plan assets that will determine the future funding status and contribution rate to the Plan.

Projection of Assets and Liabilities 7.25% return each year



SECTION II – ASSETS

Pension Plan assets play a key role in the financial operation of the Plan and in the decisions the Board may make with respect to future deployment of those assets. The level of assets, the allocation of assets among asset classes, and the methodology used to measure assets will likely impact benefit levels, employer contributions, and the ultimate security of participants' benefits.

In this section, we present detailed information on Plan assets including:

- **Disclosure** of Plan assets as of June 30, 2016 and June 30, 2017
- Statement of the **changes** in market values during the year
- Development of the **Actuarial Value of Assets**

Disclosure

There are two types of asset values disclosed in the valuation, the Market Value of Assets and the Actuarial Value of Assets. The market value represents "snap-shot" or "cash-out" values, which provide the principal basis for measuring financial performance from one year to the next. Market values, however, can fluctuate widely with corresponding swings in the marketplace. As a result, market values are usually not as suitable for long-range planning as are the Actuarial Value of Assets, which reflect smoothing of annual investment returns.

Table II-1 discloses and compares each components of the market asset value as of June 30, 2016 and June 30, 2017.

Table II-1
Statement of Assets at Market Value
June 30,

Investments		**2016**		**2017**
Cash and Cash Equivalents	$	2,004,465	$	1,497,515
Equity Securities		49,118,441		58,411,300
Fixed Income Securities		26,721,665		27,813,256
Total Investments	$	77,844,571	$	87,722,071
Receivables:				
Securities Sold	$	1,054,136	$	1,187,135
Interest and Dividends		114,090		126,412
Other Receivable		164,130		11,846
Total Receivables	$	1,332,356	$	1,325,393
Payables				
Accounts Payable	$	(119,496)	$	(172,660)
Benefits Payable		0		0
Other Payable		(3,720,412)		(4,242,494)
Total Payables	$	(3,839,908)	$	(4,415,154)
Market Value of Assets	**$**	**75,337,019**	**$**	**84,632,310**

SECTION II – ASSETS

Changes in Market Value

The components of asset change are:

- Contributions (employer and employee)
- Benefit payments
- Expenses (investment and administrative)
- Investment income (realized and unrealized)

Table II-2 shows the components of a change in the Market Value of Assets during 2016 and 2017.

Table II-2
Changes in Market Values

		2016		2017
Contributions				
Employer's Contribution	$	7,576,866	$	7,321,138
Members' Contributions		21,014		53,706
Total Contributions	$	7,597,880	$	7,374,844
Investment Income				
Interest & Dividends	$	1,097,799	$	1,159,507
Realized & Unrealized Gain/(Loss)		(1,169,412)		8,574,742
Other Investment Income		0		0
Investment Expenses		(324,943)		(345,373)
Total Investment Income	$	(396,556)	$	9,388,876
Disbursments				
Benefit Payments	$	(6,190,981)	$	(7,179,362)
Expenses		(269,624)		(289,067)
Transfer from (to) Union Plans		0		0
Total Disbursments	$	(6,460,605)	$	(7,468,429)
Net increase (Decrease)	$	740,719	$	9,295,291
Net Assets Held in Trust for Benefits:				
Beginning of Year	$	74,596,300	$	75,337,019
End of Year	$	75,337,019	$	84,632,310
Approximate Return		-0.53%		12.47%
Administrative Expenses as a Percentage of Mean Assets		0.36%		0.34%

SECTION II – ASSETS

Actuarial Value of Assets (AVA)

The Actuarial Value of Assets represents a "smoothed" value developed by the actuary to reduce the volatile results which could develop due to short-term fluctuations in the Market Value of Assets. For this Plan, the Actuarial Value of Assets is calculated on a modified market-related value. The Market Value of Assets is adjusted to recognize, over a five-year period, investment earnings which are greater than (or less than) the assumed investment return.

Table II-3
Development of Actuarial Value of Assets
as of July 1, 2017

Year	(a) Total Contributions	(b) Total Disbursements	(c) Expected Return	(d) Actual Return	(e) = (d) – (c) Additional Earnings	(f) Not Recognized	(g) = (e) x (f) Unrecognized Earnings
2012-2013	5,799,546	(5,447,437)	4,118,726	7,261,699	3,142,973	0%	0
2013-2014	6,610,761	(5,666,601)	4,731,780	9,297,644	4,565,864	20%	913,173
2014-2015	7,335,569	(5,696,353)	5,480,809	2,132,136	(3,348,673)	40%	(1,339,469)
2015-2016	7,597,880	(6,460,605)	5,637,370	(396,556)	(6,033,926)	60%	(3,620,356)
2016-2017	7,374,844	(7,468,429)	5,646,767	9,388,876	3,742,109	80%	2,993,687
1. Total Unrecognized Dollars							(1,052,965)
2. Market Value of Assets as of June 30, 2017							84,632,310
3. Actuarial Value of Assets as of June 30, 2017: [(2) - (1)]							85,685,275
4. Ratio of Actuarial Value to Market Value [(3) ÷ (2)]							101.24%

SECTION II – ASSETS

Investment Performance

The following table calculates the investment related gain/loss for the plan year on both a Market Value and an Actuarial Value basis. The Market Value gain/loss is an appropriate measure for comparing the actual asset performance to the previous valuation's long-term 7.50% assumption.

Table II-4
Asset Gain/(Loss)

		Market Value		Actuarial Value
July 1, 2016 value	$	**75,337,019**	$	**79,718,423**
Employer Contributions		7,321,138		7,321,138
Employee Contributions		53,706		53,706
Benefit Payments and Expenses		(7,468,429)		(7,468,429)
Expected Investment Earnings (7.50%)		5,646,767		5,975,372
Expected Value June 30, 2017	$	**80,890,201**	$	**85,600,210**
Investment Gain / (Loss)		3,742,109		85,065
July 1, 2017 value	$	**84,632,310**	$	**85,685,275**
Return		12.47%		7.61%

SECTION III – LIABILITIES

In this section, we present detailed information on Plan liabilities including:

- **Disclosure** of Plan liabilities at July 1, 2016 and July 1, 2017
- Statement of **changes** in these liabilities during the year

Disclosure

Several types of liabilities are calculated and presented in this report. Each type is distinguished by the people ultimately using the figures and the purpose for which they are using them. Note that these liabilities are not applicable for settlement purposes, including the purchase of annuities and the payment of lump sums.

- **Present Value of Future Benefits:** Used for measuring all future Plan obligations, represents the amount of money needed today to fully fund all benefits of the Plan both earned as of the valuation date and those to be earned in the future by current plan participants, under the current Plan provisions.
- **Actuarial Liability:** Used for funding calculations, the Normal Cost rate is equal to the total Projected Value of Benefits at Entry Age, divided by Present Value of Future Salary at Entry Age. The dollar amount of the Normal Cost equal to the Normal Cost rate multiplied by each member's projected pay. The Actuarial Liability is the portion of the Present Value of Future Benefits not covered by future expected Normal Costs. This method is called **Entry Age to Final Decrement** (EAFD).
- **Unfunded Actuarial Liability:** The excess of the Actuarial Liability over the Actuarial Value of Assets.

Table III-1discloses each of these liabilities for the current and prior valuations.

Table III-1
Liabilities/Net (Surplus)/Unfunded

	July 1, 2016	July 1, 2017
Present Value of Future Benefits		
Active Participant Benefits	$ 90,120,760	$ 86,007,630
Retiree and Inactive Benefits	63,432,219	77,261,249
Present Value of Future Benefits (PVB)	**$ 153,552,979**	**$ 163,268,879**
Actuarial Liability		
Present Value of Future Benefits (PVB)	$ 153,552,979	$ 163,268,879
Present Value of Future Normal Costs (PVFNC)	30,822,749	30,282,486
Actuarial Liability (AL = PVB – PVFNC)	**$ 122,730,230**	**$ 132,986,393**
Actuarial Value of Assets (AVA)	79,718,423	85,685,275
Net (Surplus)/Unfunded (AL – AVA)	**$ 43,011,807**	**$ 47,301,118**

Changes in Liabilities

Each of the Liabilities disclosed in the prior table are expected to change at each valuation. The components of that change, depending upon which liability is analyzed, can include:

- New hires since the last valuation
- Benefits accrued since the last valuation
- Plan amendments increasing benefits
- Passage of time which adds interest to the prior liability
- Benefits paid to retirees since the last valuation
- Participants retiring, terminating, or dying at rates different than expected
- A change in actuarial or investment assumptions
- A change in the actuarial funding method or software

Unfunded liabilities will change because of all of the above, and also due to changes in Plan assets resulting from:

- Employer contributions different than expected
- Investment earnings different than expected
- A change in the method used to measure plan assets

Table III-2
Changes in Actuarial Liability

Actuarial Liability at July 1, 2016	$	122,730,230
Actuarial Liability at July 1, 2017	$	132,986,393
Liability Increase (Decrease)		10,256,163
Change due to:		
Actuarial Methods / Software Changes	$	0
Plan Changes		0
Assumption Changes		3,108,901
Accrual of Benefits		3,757,422
Actual Benefit Payments		(7,179,362)
Interest		9,073,897
Actuarial (Gain)/Loss		1,495,305

SECTION III – LIABILITIES

Table III-3
Development of Actuarial Gain / (Loss)

1. Unfunded Actuarial Liability at Start of Year (not less than zero)	$	43,011,807
2. Employer Normal Cost at Middle of Year		3,757,422
3. Interest on 1. and 2. to End of Year		3,364,242
4. Contributions, Admin Expenses and Transfers in Prior Year		7,085,777
5. Interest on 4. to End of Year		265,717
6. Change in Unfunded Actuarial Liability Due to Changes in Actuarial Methods		0
7. Change in Unfunded Actuarial Liability Due to Changes in Assumptions		3,108,901
8. Change in Unfunded Actuarial Liability Due to Changes in Plan Design		0
9. Expected Unfunded Actuarial Liability at End of Year [1. + 2. + 3. – 4. – 5. + 6. + 7. + 8.]	$	45,890,878
10. Actual Unfunded Actuarial Liability at End of Year (not less than zero)		47,301,118
11. Actuarial Gain / (Loss) [9. – 10.]	$	(1,410,240)

SECTION IV – CONTRIBUTIONS

In the process of evaluating the financial condition of any pension plan, the actuary analyzes the assets and liabilities to determine what level (if any) of contributions is needed to properly maintain the funding status of the Plan. Typically, the actuarial process will use a funding technique that will result in a pattern of contributions that are both stable and predictable.

For this Plan, the actuarial funding method used to determine the normal cost and the Unfunded Actuarial Liability is the **Entry Age to Final Decrement (EAFD)** cost method.

The normal cost rate is determined with the normal cost percentage equal to the total Projected Value of Benefits at Entry Age, divided by Present Value of Future Salary at Entry Age. Normal cost contributions are assumed to be made throughout the year, or on average mid-year.

The Unfunded Actuarial Liability is the difference between the EAFD Actuarial Liability and the Actuarial Value of Assets. The UAL rate is based on a 15-year amortization of the remainder of the Unfunded Actuarial Liability as of July 1, 2017, again assuming mid-year payment to reflect the fact that employer contributions are made throughout the year.

Beginning with the June 30, 2013 actuarial valuation, an amount equal to the expected administrative expenses for the Plan is added directly to the actuarial cost calculation. Previously, this cost was implicitly included in the calculation of the normal cost and unfunded liability payment, based on the use of a discount rate that was net of anticipated administrative expenses.

Members hired on or after January 1, 2015 will contribute half of the normal cost of the Plan rounded to the nearest 0.25%. Once established, contribution rate for New Members will be adjusted to reflect a change in the normal cost rate, but only if the normal cost rate changed by more than 1% of payroll. For the current year, the contribution rate for PEPRA members was 5.25% of payroll (1/2 of 10.27%, rounded to the nearest quarter). The normal cost rate for the PEPRA members as of the July 1, 2017 valuation is 11.03%, and since the increase is less than 1%, the rate for the following fiscal year remains at 5.25%.

The tables on the following pages present the employer contributions for the Plan for the current and prior valuations.

SECTION IV – CONTRIBUTIONS

Table IV-1
Development of Employer Contribution Amount

	July 1, 2016	July 1, 2017
1. Entry Age Normal Cost (Middle of Year)		
a. Termination	$ 164,386	$ 160,338
b. Retirement	3,390,759	3,296,149
c. Disability	95,422	92,235
d. Death	104,454	100,505
e. Refunds	2,402	7,927
f. Total Normal Cost (a) + (b) + (c) + (d) + (e)	$ 3,757,423	$ 3,657,154
2. Entry Age Actuarial Liability		
Active Members		
a. Termination	$ (262,696)	$ (252,862)
b. Retirement	57,041,551	53,626,943
c. Disability	1,214,085	1,128,958
d. Death	1,304,823	1,222,670
e. Refunds	248	(565)
f. Total Active Liability: (a) + (b) + (c) + (d) + (e)	$ 59,298,011	$ 55,725,144
Inactive Members		
g. Termination	$ 2,899,718	$ 4,999,724
h. Retirement	56,226,086	67,604,930
i. Disability	1,149,877	1,142,990
j. Death	3,156,538	3,513,605
k. Total Inactive Liability: (g) + (h) + (i) + (j)	$ 63,432,219	$ 77,261,249
l. Total Entry Age Actuarial Liability: (2f) + (2k)	$ 122,730,230	$ 132,986,393
3. Actuarial Value of Assets	$ 79,718,423	$ 85,685,275
4. Unfunded Actuarial Liability: (2l) - (3)	$ 43,011,807	$ 47,301,118
5. Unfunded Actuarial Liability Amortization at Middle of Year as a Level Percentage of Payroll (16/15 Years Remaining)	$ 3,731,398	$ 4,268,672
6. Expected Administrative Expenses	$ 288,340	$ 297,856
7. Expected Member Contributions	$ (42,292)	$ (127,051)
8. Employer Contribution Payable in Monthly Installments: (1f) + (5) + (6) + (7)	$ 7,734,869	$ 8,096,631
9. Covered Payroll (Normal Cost)	$ 23,229,731	$ 22,443,603
10. Covered Payroll (UAL Amort and Expenses)	$ 23,952,817	$ 23,179,191
11. Employer Contribution as a Percent of Covered Payroll: [(1) + (7)] / (9) + [(5) + (6)] / (10)	32.78%	35.43%
12. Employer Net Phased-in Contribution as a Percent of Covered Payroll	32.54%	34.30% *

* The District will begin paying this percentage of payroll July 1, 2018.

SECTION IV – CONTRIBUTIONS

Table IV-2
Allocation of Liabilities, Assets, and Cost amoung Groups

	AEA	AFSCME	MCEG	AFST	PEPRA	Total
Actuarial Liability						
Active	5,841,007	20,658,820	24,085,781	4,908,041	231,495	55,725,144
Inactive	38,622,826	9,390,831	26,925,466	2,322,126	0	77,261,249
Total Actuarial Liability	44,463,833	30,049,651	51,011,247	7,230,167	231,495	132,986,393
Market Value of Assets						84,632,310
Actuarial Value of Assets						85,685,275
Unfunded Actuarial Liability (UAL)						47,301,118
UAL Amortization (Middle of Year)	443,401	1,626,376	1,346,638	382,749	469,510	4,268,672
Total Normal Cost (Middle of Year)	374,224	1,557,382	1,113,756	344,765	267,027	3,657,154
Expected Employee Contributions	0	0	0	0	(127,051)	(127,051)
Administrative Expense	30,939	113,484	93,965	26,707	32,761	297,856
Employer Contribution Payable Monthly	848,564	3,297,241	2,554,358	754,220	642,247	8,096,630
Covered Payroll (Normal Cost)	2,356,941	8,557,197	7,160,637	1,948,803	2,420,025	22,443,603
Covered Payroll (UAL Amort and Admin)	2,407,697	8,831,334	7,312,337	2,078,352	2,549,471	23,179,191
Total Normal Cost as a % of Payroll	15.88%	18.20%	15.55%	17.69%	11.03%	16.29%
Employee Contribution Rate	0.00%	0.00%	0.00%	0.00%	(5.25%)	(0.57%)
Employer Normal Cost as a % of Payroll	15.88%	18.20%	15.55%	17.69%	5.78%	15.73%
UAL Amortization Rate	18.42%	18.42%	18.42%	18.42%	18.42%	18.42%
Administrative Expense Rate	1.29%	1.29%	1.29%	1.29%	1.29%	1.29%
Total Contribution as a % of Payroll	35.59%	37.91%	35.26%	37.40%	25.49%	35.43%
Total Phased-in Contribution as a % of Payroll	34.45%	36.70%	34.13%	36.20%	24.67%	34.30%

SECTION IV – CONTRIBUTIONS

Table IV-3
Salaried PEPRA/Non-PEPRA Summary

	Non-PEPRA	PEPRA	Total
1. Entry Age Normal Cost (Middle of Year)	$ 3,390,127	$ 267,027	$ 3,657,154
2. Covered Payroll (Normal Cost)	$ 20,023,578	$ 2,420,025	$ 22,443,603
3. Normal Cost as a Percent of Covered Payroll: (1) / (2)	16.93%	11.03%	16.29%
4. Expected Employee Contributions as a Percent of Covered Payroll	0.00%	(5.25%)	(0.57%)
5. Entry Age Actuarial Liability	$ 132,754,898	$ 231,495	$ 132,986,393
6. Actuarial Value of Assets			$ 85,685,275
7. Unfunded Actuarial Liability: (5) - (6)			$ 47,301,118
8. Unfunded Actuarial Liability Amortization at Middle of Year as a Level Percentage of Payroll (15 Years Remaining)	$ 3,799,162	$ 469,510	$ 4,268,672
9. Expected Administrative Expenses	$ 265,095	$ 32,761	$ 297,856
10. Expected Employee Contributions	$ 0	$ (127,051)	$ (127,051)
11. Employer Contribution Payable in Monthly Installments: (1) + (8) + (9) + (10)	$ 7,454,384	$ 642,247	$ 8,096,631
12. Covered Payroll (UAL Amort and Expenses)	$ 20,629,720	$ 2,549,471	$ 23,179,191
13. Total Contribution as a Percent of Covered Payroll: [(1) + (10)] / (2) + [(8) + (9)] / (12)	36.64%	25.49%	35.43%
14. Total Phased-in Contribution as a Percent of Covered Payroll	35.47%	24.67%	34.30% *

* The District will begin paying this percentage of payroll July 1, 2018.

APPENDIX A – MEMBERSHIP INFORMATION

The data for this valuation was provided by the Sacramento Regional District Transit staff as of July 1, 2017.

Active Participants	July 1, 2016	July 1, 2017
Number	244	223
Number Vested	209	181
Average Age	50.2	50.1
Average Service	13.8	13.6
Average Pay	$93,864	$99,414
Retired		
Number	229	261
Average Age	67.0	66.9
Average Annual Benefit	$24,290	$24,940
Beneficiaries		
Number	15	16
Average Age	71.5	71.4
Average Annual Benefit	$22,656	$23,772
Disabled		
Number	6	6
Average Age	68.1	69.1
Average Annual Benefit	$26,330	$26,330
Term Vested		
Number	47	55
Average Age	47.8	47.2
Average Annual Benefit	$8,351	$11,024
Transferred		
Number	73	69
Average Age	49.5	48.9
Average Annual Benefit	$15,567	$14,513

Data pertaining to active and inactive Members and their beneficiaries as of the valuation date was supplied by the Plan Administrator on electronic media.

APPENDIX A – MEMBERSHIP INFORMATION

Changes in Plan Membership: AEA

	Actives	Actives with Transfer Service	Non-Vested Terms with Funds on Account	Vested Terminations	Disabled	Retired	Beneficiaries*	Total
July 1, 2016	34	51	0	32	5	157	9	288
New Entrants	4	0	0	0	0	0	0	4
Rehires	0	0	0	0	0	0	0	0
Disabilities	0	0	0	0	0	0	0	0
Retirements	(5)	(4)	0	(6)	0	15	0	0
Vested Terminations	(2)	(1)	0	3	0	0	0	0
Died, With Beneficiary, QDRO	(1)	0	0	0	0	(1)	2	0
Transfers	1	1	0	0	0	0	0	2
Died, No Beneficiary, & Other Terminations	0	0	0	0	0	(1)	0	(1)
Transfer Retirement	0	(3)	0	0	0	0	0	(3)
Beneficiary Deaths	0	0	0	0	0	0	(1)	(1)
Funds Transferred	0	0	0	0	0	0	0	0
Refund of Contributions	0	0	0	0	0	0	0	0
Data Corrections	0	0	0	0	0	0	0	0
July 1, 2017	**31**	**44**	**0**	**29**	**5**	**170**	**10**	**289**

* Beneficiary counts do not include DROs where benefits are paid over the member's lifetime.

APPENDIX A – MEMBERSHIP INFORMATION

Changes in Plan Membership: AFSC

	Actives	Actives with Transfer Service	Non-Vested Terms with Funds on Account	Vested Terminations	Disabled	Retired	Beneficiaries*	Total
July 1, 2016	83	9	0	2	1	26	0	121
New Entrants	1	0	0	0	0	0	0	1
Rehires	0	0	0	0	0	0	0	0
Disabilities	0	0	0	0	0	0	0	0
Retirements	(5)	0	0	0	0	5	0	0
Vested Terminations	(2)	0	0	2	0	0	0	0
Died, With Beneficiary, QDRO	0	0	0	0	0	0	0	0
Transfers	4	0	0	0	0	0	0	4
Died, No Beneficiary, & Other Terminations	0	0	0	0	0	0	0	0
Transfer Retirement	0	0	0	0	0	0	0	0
Beneficiary Deaths	0	0	0	0	0	0	0	0
Funds Transferred	0	0	0	0	0	0	0	0
Refund of Contributions	0	0	0	0	0	0	0	0
Data Corrections	0	0	0	0	0	0	0	0
July 1, 2017	**81**	**9**	**0**	**4**	**1**	**31**	**0**	**126**

* Beneficiary counts do not include DROs where benefits are paid over the member's lifetime.

APPENDIX A – MEMBERSHIP INFORMATION

Changes in Plan Membership: AFST

	Actives	Actives with Transfer Service	Non-Vested Terms with Funds on Account	Vested Terminations	Disabled	Retired	Beneficiaries*	Total
July 1, 2016	49	3	0	4	0	2	0	58
New Entrants	2	0	0	0	0	0	0	2
Rehires	0	0	0	0	0	0	0	0
Disabilities	0	0	0	0	0	0	0	0
Retirements	(6)	0	0	0	0	6	0	0
Vested Terminations	(5)	0	0	5	0	0	0	0
Died, With Beneficiary, QDRO	0	0	0	0	0	0	0	0
Transfers	(2)	4	0	0	0	0	0	2
Died, No Beneficiary, & Other Terminations	0	0	0	0	0	0	0	0
Transfer Retirement	0	0	0	0	0	0	0	0
Beneficiary Deaths	0	0	0	0	0	0	0	0
Funds Transferred	0	0	0	0	0	0	0	0
Refund of Contributions	(1)	0	0	0	0	0	0	(1)
Data Corrections	0	0	0	0	0	0	0	0
July 1, 2017	**37**	**7**	**0**	**9**	**0**	**8**	**0**	**61**

* Beneficiary counts do not include DROs where benefits are paid over the member's lifetime.

APPENDIX A – MEMBERSHIP INFORMATION

Changes in Plan Membership: MCEG

	Actives	Actives with Transfer Service	Non-Vested Terms with Funds on Account	Vested Terminations	Disabled	Retired	Beneficiaries*	Total
July 1, 2016	78	10	0	9	0	44	6	147
New Entrants	8	0	0	0	0	0	0	8
Rehires	0	0	0	0	0	0	0	0
Disabilities	0	0	0	0	0	0	0	0
Retirements	(7)	0	0	(1)	0	8	0	0
Vested Terminations	(5)	0	0	5	0	0	0	0
Died, With Beneficiary, QDRO	0	0	0	0	0	0	0	0
Transfers	3	0	0	0	0	0	0	3
Died, No Beneficiary, & Other Terminations	0	0	0	0	0	0	0	0
Transfer Retirement	0	(1)	0	0	0	0	0	(1)
Beneficiary Deaths	0	0	0	0	0	0	0	0
Funds Transferred	0	0	0	0	0	0	0	0
Refund of Contributions	(3)	0	0	0	0	0	0	(3)
Data Corrections	0	0	0	0	0	0	0	0
July 1, 2017	**74**	**9**	**0**	**13**	**0**	**52**	**6**	**154**

* Beneficiary counts do not include DROs where benefits are paid over the member's lifetime.

APPENDIX A – MEMBERSHIP INFORMATION

Changes in Plan Membership: All Non-Contract								
	Actives	Actives with Transfer Service	Non-Vested Terms with Funds on Account	Vested Terminations	Disabled	Retired	Beneficiaries*	Total
July 1, 2016	244	73	0	47	6	229	15	614
New Entrants	15	0	0	0	0	0	0	15
Rehires	0	0	0	0	0	0	0	0
Disabilities	0	0	0	0	0	0	0	0
Retirements	(23)	(4)	0	(7)	0	34	0	0
Vested Terminations	(14)	(1)	0	15	0	0	0	0
Died, With Beneficiary, QDRO	(1)	0	0	0	0	(1)	2	0
Transfers	6	5	0	0	0	0	0	11
Died, No Beneficiary, & Other Terminations	0	0	0	0	0	(1)	0	(1)
Transfer Retirement	0	(4)	0	0	0	0	0	(4)
Beneficiary Deaths	0	0	0	0	0	0	(1)	(1)
Funds Transferred	0	0	0	0	0	0	0	0
Refund of Contributions	(4)	0	0	0	0	0	0	(4)
Data Corrections	0	0	0	0	0	0	0	0
July 1, 2017	**223**	**69**	**0**	**55**	**6**	**261**	**16**	**630**

* Beneficiary counts do not include DROs where benefits are paid over the member's lifetime.

APPENDIX A – MEMBERSHIP INFORMATION

Age / Service Distribution Of Non-Union Active Participants
As of July 1, 2017

	Service												
Age	Under 1	1	2	3	4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 & up	Total
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0
21 to 24	0	0	0	0	0	0	0	0	0	0	0	0	0
25 to 29	0	1	1	0	1	0	0	0	0	0	0	0	3
30 to 34	0	0	0	3	4	2	2	0	0	0	0	0	11
35 to 39	2	1	1	0	2	4	10	2	0	0	0	0	22
40 to 44	3	2	1	1	0	7	7	9	0	0	0	0	30
45 to 49	3	2	1	0	1	5	17	7	5	1	0	0	42
50 to 54	3	1	0	3	0	3	10	11	6	1	0	0	38
55 to 59	1	0	0	0	1	3	7	16	6	4	3	0	41
60 to 64	2	0	1	0	0	0	4	9	5	3	1	2	27
65 to 69	0	0	0	0	0	2	1	2	1	2	0	0	8
70 & up	0	0	0	0	0	1	0	0	0	0	0	0	1
Total	14	7	5	7	9	27	58	56	23	11	4	2	223

Average Age = 50.1 Average Service = 13.6

APPENDIX A – MEMBERSHIP INFORMATION

Payroll Distribution Of Non-Union Active Participants
As of July 1, 2017

	Service												
Age	Under 1	1	2	3	4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 & up	Total
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0
21 to 24	0	0	0	0	0	0	0	0	0	0	0	0	0
25 to 29	0	73,301	51,933	0	87,617	0	0	0	0	0	0	0	70,950
30 to 34	0	0	0	81,058	57,880	36,948	87,103	0	0	0	0	0	65,709
35 to 39	65,718	84,989	94,962	0	73,051	74,141	92,286	57,038	0	0	0	0	81,408
40 to 44	108,515	64,212	97,566	93,997	0	76,345	112,568	103,120	0	0	0	0	96,534
45 to 49	138,071	65,440	94,852	0	56,229	86,002	105,610	114,276	114,431	64,355	0	0	103,762
50 to 54	97,086	225,792	0	91,438	0	108,323	105,733	119,478	118,410	114,913	0	0	113,508
55 to 59	148,104	0	0	0	71,664	89,804	89,765	100,452	111,066	98,736	113,123	0	100,622
60 to 64	100,859	0	92,924	0	0	0	103,584	106,950	109,000	123,927	153,538	150,485	112,697
65 to 69	0	0	0	0	0	47,430	97,458	71,710	107,940	105,084	0	0	81,731
70 & up	0	0	0	0	0	53,363	0	0	0	0	0	0	53,363
Total	108,020	91,912	86,447	87,355	65,903	76,944	101,343	104,814	113,128	105,106	123,227	150,485	99,414

Average Salary = $ 99,414

APPENDIX A – MEMBERSHIP INFORMATION

Service Retired Participants and Beneficiaries

Age	Number	Average Monthly Benefit
35-39	0	$0
40-44	0	$0
45-49	1	$394
50-54	4	$2,014
55-59	42	$1,373
60-64	73	$2,431
65-69	74	$2,447
70-74	46	$1,925
75-79	19	$1,614
80-84	9	$2,318
85-89	6	$1,048
90-94	2	$1,383
95+	1	$364
Total	277	$2,073

Disabled Participants

Age	Number	Average Monthly Benefit
35-39	0	$0
40-44	0	$0
45-49	0	$0
50-54	1	$1,739
55-59	0	$0
60-64	0	$0
65-69	2	$2,229
70-74	2	$3,191
75-79	0	$0
80-84	1	$586
85-89	0	$0
90-94	0	$0
95+	0	$0
Total	6	$2,194

Terminated Vested Participants

Age	Number	Average Monthly Benefit
25-29	1	$637
30-34	1	$114
35-39	12	$511
40-44	6	$903
45-49	11	$1,197
50-54	21	$1,101
55-59	1	$787
60-64	1	$263
65-69	1	$885
70-74	0	$0
75-79	0	$0
80-84	0	$0
85-89	0	$0
90+	0	$0
All Ages	55	$919

Tranferred Participants

Age	Number	Average Monthly Benefit
25-29	1	$61
30-34	3	$250
35-39	7	$861
40-44	9	$964
45-49	16	$814
50-54	15	$1,200
55-59	12	$1,782
60-64	6	$2,590
65-69	0	$0
70-74	0	$0
75-79	0	$0
80-84	0	$0
85-89	0	$0
90+	0	$0
All Ages	69	$1,209

APPENDIX B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS

The assumptions and methods used in the actuarial valuation as of July 1, 2017 are:

Actuarial Method

As of July 1, 2012, the Normal Cost (and resulting Actuarial Liability) is determined as a single result for each individual, with the Normal Cost percentage equal to the total Projected Value of Benefits at Entry Age, divided by the Present Value of Future Salary at Entry Age. This variation is known as the Entry-Age-to-Final-Decrement.

The excess of the Actuarial Liability over Plan assets is the Unfunded Actuarial Liability. Prior to July 1, 2007, this liability was amortized as a level percentage of payroll over the remainder of a 30-year period beginning January 1, 1997. As of July 1, 2007, the amortization period has been reset to a new 30-year period, decreasing two years with each valuation until a 20-year amortization period has been achieved. The amortization period as of July 1, 2017 is 15 years. Amounts may be added to or subtracted from the Unfunded Actuarial Liability due to Plan amendments, changes in actuarial assumptions, and actuarial gains and losses.

The total Plan cost is the sum of the Normal Cost, the amortization of the Unfunded Actuarial Liability, and the expected Administrative Expenses.

Actuarial Value of Plan Assets

The actuarial value of Plan assets is calculated on a modified market-related value. The Market Value of Assets is adjusted to recognize, over a five-year period, investment earnings which are greater than (or less than) the assumed investment return on the Market Value of Assets.

Actuarial Assumptions

The actuarial assumptions were developed based on an Experience Study covering the period from July 1, 2011 through June 30, 2015, except for the economic assumptions, which were updated by the Board for the current valuation as a result of an analysis completed in 2018.

1. **Rate of Return**

   The annual rate of return on all Plan assets is assumed to be 7.25% for the current valuation net of investment, but not administrative, expenses. For the prior valuation, this was assumed to be 7.50% net of investment, but not administrative, expenses.

2. **Cost of Living**

   The cost of living as measured by the Consumer Price Index (CPI) is assumed to increase at the rate of 3.00% per year. This assumption was 3.15% in the prior valuation.

APPENDIX B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS

3. Plan Expenses

Administrative expenses are assumed to be $306,792 for Fiscal Year 2018-19, and are added directly to the actuarial cost calculation. The expenses are assumed to increase with CPI in future years.

4. Increases in Pay

Assumed pay increases for active Participants consist of increases due to inflation (cost of living adjustments) and those due to longevity and promotion.

Based on an analysis of pay levels and service for the Salaried Plan Participants, we assume that pay increases due to longevity and promotion will occur in accordance with the following table:

Pay Increases			
	Years of Service		
	0-9	10-19	20+
Base Increase	3.15%	3.15%	3.15%
Longevity & Promotion			
AFSME	2.00%	2.00%	0.00%
AEA/MCEG	3.25%	0.50%	0.50%
Total (Compound)			
AFSME	5.21%	5.21%	3.15%
AEA/MCEG	6.50%	3.67%	3.67%

5. Family Composition

85% of participants are assumed to be married. Male spouses of active employees are assumed to be three years older than their wives. This assumption is also applied to retired members with a joint and survivor benefit where the data is missing the beneficiary date of birth.

6. Terminal Payments

Retirement benefits are assumed to be increased by 7% due to the application of payments for unused vacation and sick leave to Average Final Monthly Earnings.

No liability adjustment for retirement is used for members who joined the plan on or after January 1, 2015.

APPENDIX B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS

7. Bridging Service

The Plan has been modified to enable members who are rehired after a previous period of non-vested service to use this prior service for benefit and eligibility purposes. As the impact on the liabilities and contribution level of the Plan is expected to be minor, and will depend on the number of members actually rehired (if any), no additional liability is currently being included for this provision.

8. Employment Status

No Plan Participants are assumed to transfer between the Salaried Plan and the ATU/IBEW Plan.

9. Rates of Termination

Rates of termination for all Participants from causes other than death, disability, and service retirement are based on the Participant's age, service, and sex.

Representative rates are shown in the following table:

Termination Rates*		
	0-4 Years	5+ Years
Age	All	All
20-34	5.00%	8.00%
35-44	5.00%	3.00%
45	5.00%	0.25%
46	5.00%	0.20%
47	5.00%	0.15%
48	5.00%	0.10%
49	5.00%	0.50%
50+	5.00%	0.00%

* No terminations are assumed after eligibility for normal retirement or after 25 years of service for non-PEPRA members. PEPRA members terminating with at least five years of service are expected to receive a deferred annuity benefit; those terminating with less than five years of service are expected to receive a refund of contributions (with interest).

APPENDIX B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS

10. Rates of Disability

Rates of disability are based on the age of the Participant. Representative rates are as follows:

Rates of Disability	
Age	**Rate**
22	0.0184%
27	0.0237%
32	0.0289%
37	0.0368%
42	0.0525%
47	0.0814%
52	0.1418%
57	0.2599%
62	0.5382%

Rates are applied after the Participant becomes eligible to receive a disability benefit. Disabled Participants are assumed not to return to active service.

11. Rates of Mortality for Healthy Lives

Rates of mortality for active Participants are given by the Retired Pensioners (RP) 2014 Male and Female Employee Mortality Tables projected with Scale MP-2015 published by the Society of Actuaries, with the base tables adjusted 130% for females.

12. Rates of Mortality for Disabled Retirees

Rates of mortality for all disabled Participants are given by Retired Pensioners (RP) 2014 Male and Female Disabled Retiree Mortality Tables projected with Scale MP-2015 published by the Society of Actuaries, with the base tables adjusted 130% for males and 115% for females.

13. Retired Member and Beneficiary Mortality

Rates of mortality for retired Participants and their beneficiaries are given by the Retired Pensioners (RP) 2014 Male and Female Healthy Annuitants Mortality Tables projected with Scale MP-2015 published by the Society of Actuaries, with the base tables adjusted 130% for females.

APPENDIX B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS

14. Rates of Retirement

Rates of service retirement among all Participants eligible to retire are given by the following table:

Rates of Retirement			
	Years of Service		
Age	5-24	25-29	30+
50-54	0.00%	5.00%	25.00%
55-59	5.00%	5.00%	25.00%
60	15.00%	15.00%	15.00%
61-64	8.25%	8.25%	8.30%
65+	25.00%	25.00%	25.00%

*The rate of service retirement among all Participants eligible to retire with 30 or more years of service is assumed to be 25.0% per year, and 100% per year for all Participants 70 or older. PEPRA members are assumed to begin retiring at age 52, with at least five years of service.

15. Changes Since Last Valuation

The assumed rate of return and inflation assumption were changed from 7.50% and 3.15%, respectively, to 7.25% and 3.00%.

APPENDIX C - SUMMARY OF PLAN PROVISIONS

1. Definitions

Average Final Monthly Earnings:	A Participant's Average Final Monthly Earnings is the highest average consecutive 48 months' Compensation paid. Payments for accumulated vacation or sick leave not actually taken prior to retirement are included in computing Average Final Monthly Earnings if the last 48 months of compensation are used in the calculation, except for PEPRA members.
Compensation:	A Participant's Compensation is the earnings paid in cash to the participant during the applicable period of employment with the District. PEPRA member's Compensation is computed using base salary, without overtime or other special compensation such as terminal payments. Pensionable compensation is limited to an amount not to exceed a specific capped amount, originally tied to the Social Security Taxable Wage Base in 2013, and subsequently adjusted annually by the increase in the CPI-U.
Service:	Service is computed from the date in which the Participant becomes a full or part-time employee and remains in continuous employment to the date employment ceases. Service includes time with the District or predecessor companies immediately prior to August 1, 1968 and subsequent to hire. For AFSCME employees, service earned prior to January 1, 2015 is measured in completed quarters of a year and completed months for service earned on or after January 1, 2015. For MCEG and AEA employees, service is measured in completed months.

2. Participation

Eligibility:	Any person employed by the District in a full or part-time position in an authorized job classification covered by one of the defined employee groups of (i) Non-union Management and Confidential Employees, (ii) Employee members of the Administrative Employee Association (AEA), or (iii) Employee members of American Federation of State, County and Municipal Employees (AFSCME), is eligible to participate in the Plan. Any member joining the Plan for the first time on or after January 1, 2015 is a New Member and will follow PEPRA provisions. Employees who transfer from and are eligible for reciprocity with another public employer will not be New Members if the service in the reciprocal system was under a pre-PEPRA plan.

3. Retirement Benefit

Eligibility: Prior to January 1, 2006, a Participant is eligible for normal service retirement upon attaining age 55 and completing nine or more years of service.

On and after January 1, 2006, a Participant is eligible for normal service retirement upon attaining age 55 and completing five or more years of service.

Effective January 1, 2000, employees with 25 years of credited service will be eligible for an early retirement option.

PEPRA members are eligible upon attaining age 52 and completing five or more years of service.

Benefit Amount: The normal service retirement benefit is the greater of the benefit accrued under the plan provisions in effect prior to February 1, 1994 or the Participant's benefit under the current plan provisions. Under the current plan provision, the member would receive a percentage of the Participant's Average Final Monthly Earnings multiplied by the Participant's service at retirement. For AGSCME members with at least five but less than nine years of service, a vesting schedule is applied unless the member has reached age 62.

For retirements and terminations prior to January 1, 2005, the percentage is equal to:

- 2.0%, if the member retires prior to age 65, and
- 2.5%, if the member retires at age 65 or later.

For AEA and MCEG retirements and terminations on and after July 1, 2006 and prior to January 1, 2008, the percentage is equal to:

- 2.0%, if the member retires at age 55 or with 25 years of service,
- 2.125%, if the member retires at age 56 or with 26 years of service,
- 2.25%, if the member retires between the ages of 57 and 64 or with 27 or more years of service, and
- 2.5%, if the member retires at age 65 or later.

For retirements and terminations on and after January 1, 2008 (July 1, 2006 for AFSCME members), the percentage is equal to:

- 2.0%, if the member retires at age 55 or with 25 years of service,
- 2.1%, if the member retires at age 56 or with 26 years of service,
- 2.2%, if the member retires at age 57 or with 27 years of service,

- 2.3%, if the member retires at age 58 or with 28 years of service,
- 2.4%, if the member retires at age 59 or with 29 years of service, and
- 2.5%, if the member retires at age 60 or later or with 30 or more years of service.

For PEPRA members, the benefit multiplier will be 1% at age 52, increasing by 0.1% for each year of age to 2.5% at 67. In between exact ages, the multiplier will increase by 0.025% for each quarter year increase in age.

Form of Benefit: The benefit begins at retirement and continues for the Participant's life with no cost of living adjustments. A Participant may elect to receive reduced benefits in the form of a contingent annuity with 50% or 100% continuing to a beneficiary after death, or in the form of an increased benefit prior to receiving Social Security benefits, and a reduced benefit thereafter.

4. Disability Benefit

Eligibility: A Participant is eligible for a disability benefit if the Participant is unable to perform the duties of his or her job with the District, cannot be transferred to another job with the District, and has submitted satisfactory medical evidence of permanent disqualification from his or her job. Nine years of service is required to qualify for disability. Effective January 1, 2006, five years of service is needed to qualify for disability retirement for AEA and MCEG members.

Benefit Amount: For AEA and MCEG members, the disability benefit is equal to the Normal Retirement Benefit, using the Participant's Average Final Monthly Earnings and service accrued through the date of disability. For AFSCME members, the disability benefit is equal to 2% of the Participant's Average Final Monthly Earnings multiplied by service accrued through the date of disability. The disability benefit cannot exceed the Retirement Benefit the member would be entitled to on the basis of Average Final Monthly Earnings determined at the date of disability multiplied by the service the member would have attained had employment continued until age 62.

Form of Benefit: The benefit begins at disability and continues until recovery or for the Participant's life with no cost of living adjustments. A Participant may elect to receive reduced benefits in the form of a contingent annuity with 50% or 100% continuing to a beneficiary after death, or in the form of an increased benefit prior to receiving Social Security benefits, and a reduced benefit thereafter.

APPENDIX C - SUMMARY OF PLAN PROVISIONS

5. Pre-Retirement Death Benefit

Eligibility: For deaths prior to January 1, 2006, a Participant's surviving spouse, Domestic Partner or minor dependent child is eligible for a pre-retirement death benefit if the Participant has completed nine years of service with the District.

For deaths on and after January 1, 2006, a Participant's surviving spouse, Domestic Partner, or minor dependent child is eligible for a pre-retirement death benefit if the Participant has completed five years of service with the District.

Benefit Amount: The pre-retirement death benefit is the actuarial equivalent of the Normal Retirement Benefit, as if the member retired on the day prior to his/her death. The amount payable to the spouse or Domestic Partner is equal to the Life benefit payable under Article V of the Plan document.

Form of Benefit: The death benefit begins when the Participant dies and continues for the life of the surviving spouse or Domestic Partner, or until the death, marriage, or attainment of 21 years of age of a dependent minor child. No optional form of benefit may be elected. No cost of living increases are payable.

6. Termination Benefit

Eligibility: A Participant is eligible for a termination benefit after earning five years of service. The Participant will be eligible to commence benefits at age 55.

Benefit Amount: For AFSCME terminations, and AEA and MCEG terminations prior to January 1, 2006, the benefit payable to a vested terminated Participant is a percentage of the Normal Retirement Benefit earned on the date of termination, based on the age, service, and Average Final Monthly Earnings accrued by the Participant at that point. The percentage is based on the Participant’s service with the District, as shown in the table below:

Service	Vested Percentage
5	20%
6	40%
7	60%
8	80%
9 or more	100%

For AEA and MCEG terminations on and after January 1, 2006, a Participant is eligible after earning five years of service for the full Normal Retirement Benefit earned on the date of termination, based on the age, service, and Average Final Monthly Earnings accrued by the Participant at that point.

PEPRA members are eligible after earning five years of service for the full Normal Retirement Benefit earned on the date of termination, based on the service and Average Final Monthly Earnings accrued by the Participant at that point, and using the factor based on the age at which the benefit commences.

Form of Benefit: The termination benefit is payable for the life of the Participant only beginning at age 55. For PEPRA members the benefit can begin as early as age 52. No cost of living increases are payable.

7. Reciprocity Benefit

Eligibility: A Participant who transfers from this Plan to the RT Union Plan, and who is vested under this Plan, is eligible for a retirement benefit from this Plan.

Benefit Amount: The benefit payable to a vested transferred Participant is equal to the Normal Retirement Benefit based on service earned under this Plan to the date of transfer and based on Average Final Earnings computed under this Plan and the Union Plan together, as if the plans were a single plan.

Form of Benefit: The reciprocity benefit begins at retirement and continues for the Participant's life with no cost of living adjustments. A Participant may elect to receive reduced benefits in the form of a contingent annuity with 50% or 100% continuing to a beneficiary after death, or in the form of an increased benefit prior to receiving Social Security benefits, and a reduced benefit thereafter.

8. Funding

Members hired on or after January 1, 2015 will contribute half of the normal cost of the Plan rounded to the nearest 0.25%. Once established, contribution rate for New Members will be adjusted to reflect a change in the normal cost rate, but only if the normal cost rate changed by more than 1% of payroll. For the current year, the initial contribution rate for PEPRA members was 5.25% (1/2 of 10.27%, rounded to the nearest quarter) of payroll. The normal cost rate for the PEPRA members as of the 7/1/2017 valuation is 11.03%, and because the rate changed by less than 1%, the rate for the following fiscal year remains at 5.25%.

The remaining cost of the Plan is paid by the District.

9. Changes in Plan Provisions

None

APPENDIX D – GLOSSARY

1. Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs such as mortality, withdrawal, disability, retirement, changes in compensation, and rates of investment return.

2. Actuarial Cost Method

A procedure for determining the Actuarial Present Value of pension plan benefits and expenses and for developing an allocation of such value to each year of service, usually in the form of a Normal Cost and an Actuarial Liability.

3. Actuarial Gain (Loss)

The difference between actual experience and that expected based upon a set of Actuarial Assumptions during the period between two Actuarial Valuation dates, as determined in accordance with a particular Actuarial Cost Method.

4. Actuarial Liability

The portion of the Actuarial Present Value of Projected Benefits which will not be paid by future Normal Costs. It represents the value of the past Normal Costs with interest to the valuation date.

5. Actuarial Present Value (Present Value)

The value as of a given date of a future amount or series of payments. The Actuarial Present Value discounts the payments to the given date at the assumed investment return and includes the probability of the payment being made.

6. Actuarial Valuation

The determination, as of a specified date, of the Normal Cost, Actuarial Liability, Actuarial Value of Assets, and related Actuarial Present Values for a pension plan.

APPENDIX D – GLOSSARY

7. Actuarial Value of Assets

The value of cash, investments, and other property belonging to a pension plan as used by the actuary for the purpose of an Actuarial Valuation. The purpose of an Actuarial Value of Assets is to smooth out fluctuations in market values.

8. Actuarially Equivalent

Of equal Actuarial Present Value, determined as of a given date, with each value based on the same set of actuarial assumptions.

9. Amortization Payment

The portion of the pension plan contribution which is designed to pay interest and principal on the Unfunded Actuarial Liability in order to pay for that liability in a given number of years.

10. Entry Age Normal Actuarial Cost Method

A method under which the Actuarial Present Value of the Projected Benefits of each individual included in an Actuarial Valuation is allocated on a level basis over the earnings of the individual between entry age and assumed exit ages.

11. Funded Ratio

The ratio of the Actuarial Value of Assets to the Actuarial Liabilities.

12. Normal Cost

That portion of the Actuarial Present Value of pension plan benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method.

13. Projected Benefits

Those pension plan benefit amounts which are expected to be paid in the future under a particular set of Actuarial Assumptions, taking into account such items as increases in future compensation and service credits.

14. Unfunded Actuarial Liability

The excess of the Actuarial Liability over the Actuarial Value of Assets. The Unfunded Actuarial Liability is not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the Plan's benefit obligation in the event of a plan termination or other similar action. However, it is an appropriate measure for assessing the need for or the amount of future contributions.

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