

Sacramento Regional Transit Retirement Plans



2017 Preliminary Valuation

February 7, 2018

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Executive Summary (ATU)



ATU Summary of Principal Plan Results

Discount Rate	7.50%	7.50%		7.25%
Valuation Date	July 1, 2016	July 1, 2017	% Change	July 1, 2017
<u>Participant Counts</u>				
Active Participants	537	531	-1.12%	
Participants Receiving a Benefit	450	476	5.78%	
Terminated Vested Participants	25	29	16.00%	
Transferred Participants	58	56	-3.45%	
Total	1,070	1,092	2.06%	
Annual Pay of Active Members	\$ 30,037,232	\$ 30,651,897	2.05%	\$ 30,607,324
<u>Assets and Liabilities</u>				
Actuarial Liability (AL)	\$ 167,084,597	\$ 173,475,996	3.83%	\$ 177,262,864
Actuarial Value of Assets (AVA)	<u>126,808,879</u>	<u>132,807,915</u>	4.73%	<u>132,807,915</u>
Unfunded Actuarial Liability (UAL)	\$ 40,275,718	\$ 40,668,081	0.97%	\$ 44,454,949
Funded Ratio (AVA)	75.9%	76.6%	0.87%	74.9%
Market Value of Assets (MVA)	\$ 119,630,500	\$ 130,588,455	9.16%	\$ 130,588,455
Funded Ratio (MVA)	71.6%	75.3%	5.14%	73.7%
Inactive Funded Ratio	61.1%	62.1%	1.73%	62.0%
<u>Contributions</u>				
Total Contribution (Beginning of Year)	\$ 7,818,151	\$ 7,923,555	1.35%	\$ 8,383,626
Total Contribution Payable Monthly	\$ 8,106,031	\$ 8,215,317	1.35%	\$ 8,682,215
Total Contribution as a Percentage of Payroll (before phase-in)	27.80%	27.62%	-0.66%	29.21%
Total Contribution as a Percentage of Payroll (after phase-in)	27.04%			

Executive Summary (IBEW)



IBEW Summary of Principal Plan Results

Discount Rate	7.50%	7.50%		7.25%
Valuation Date	July 1, 2016	July 1, 2017	% Change	July 1, 2017
<u>Participant Counts</u>				
Active Participants	206	197	-4.37%	
Participants Receiving a Benefit	145	157	8.28%	
Terminated Vested Participants	19	22	15.79%	
Transferred Participants	37	35	-5.41%	
Total	407	411	0.98%	
Annual Pay of Active Members	\$ 12,333,541	\$ 12,382,140	0.39%	\$ 12,364,134
<u>Assets and Liabilities</u>				
Actuarial Liability (AL)	\$ 68,753,422	\$ 71,263,657	3.65%	\$ 72,891,895
Actuarial Value of Assets (AVA)	<u>51,287,813</u>	<u>55,523,196</u>	8.26%	<u>55,523,196</u>
Unfunded Actuarial Liability (UAL)	\$ 17,465,609	\$ 15,740,461	-9.88%	\$ 17,368,699
Funded Ratio (AVA)	74.6%	77.9%	4.44%	76.2%
Market Value of Assets (MVA)	\$ 48,384,520	\$ 54,085,119	11.78%	\$ 54,085,119
Funded Ratio (MVA)	70.4%	75.9%	7.84%	74.2%
Inactive Funded Ratio	59.4%	60.3%	1.57%	60.2%
<u>Contributions</u>				
Total Contribution (Beginning of Year)	\$ 3,015,555	\$ 2,858,452	-5.21%	\$ 3,047,138
Total Contribution Payable Monthly	\$ 3,126,594	\$ 2,963,706	-5.21%	\$ 3,155,664
Total Contribution as a Percentage of Payroll (before phase-in)	26.01%	24.50%	-5.80%	26.09%
Total Contribution as a Percentage of Payroll (after phase-in)	25.31%			

February 7, 2018

Executive Summary (Salaried)



Summary of Preliminary Principal Plan Results

Discount Rate	7.50%	7.50%		7.25%
Valuation Date	July 1, 2016	July 1, 2017	% Change	July 1, 2017
<u>Participant Counts</u>				
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
<u>Assets and Liabilities</u>				
Actuarial Liability (AL)	\$ 122,730,230	\$ 129,877,492	5.82%	\$ 132,986,393
Actuarial Value of Assets (AVA)	79,718,423	85,685,275	7.48%	85,685,275
Unfunded Actuarial Liability (UAL)	\$ 43,011,807	\$ 44,192,217	2.74%	\$ 47,301,118
Funded Ratio (AVA)	65.0%	66.0%	1.57%	64.4%
Market Value of Assets (MVA)	\$ 75,337,019	\$ 84,632,310	12.34%	\$ 84,632,310
Funded Ratio (MVA)	61.4%	65.2%	6.16%	63.6%
Inactive Funded Ratio	51.7%	58.3%	12.75%	58.1%
<u>Contributions</u>				
Employer Contribution (Beginning of Year)	\$ 7,460,169	\$ 7,447,061	-0.18%	\$ 7,818,182
Employer Contribution Payable Monthly	\$ 7,734,869	\$ 7,721,277	-0.18%	\$ 8,096,632
Employer Contribution as a Percentage of Payroll (before phase in)	32.78%	33.73%	2.90%	35.43%
Employer Contribution as a Percentage of Payroll (after phase in)	32.54%			

Highlights (ATU)



- Investment return on the market value of assets was 12.26%, net of investment expenses, compared to the 7.50% assumed rate of return
- The actuarial return on assets was 7.12% as a result of deferred investment gains from FYE 2013, 2014 and 2017, offset by recognition of losses from FYE 2015 and 2016, which resulted in a \$0.5 million loss and increased the contribution rate by 0.14% of pay
- The net impact of demographic experience was a loss that increased the liability by \$0.6 million and increased the contribution rate by 0.05% of pay
- Payroll grew less than expected (2.05% increase vs. 3.15% assumed growth), which increased the UAL amortization and administrative expense rates by 0.14% of pay
- Inclusion of new PEPRA members reduced employer rate by 0.54% of pay
- Slightly lower contributions than expected increased the contribution rate by 0.03% of pay

Highlights (ATU)



ATU Employer Contribution Reconciliation				
Item	Total	Normal Cost	UAL Amortization	Admin Expense
FYE 2018 Total Employer Contribution Rate	27.04%			
Change due to phase-in	0.76%			
FYE 2018 Actuarial Contribution Rate	27.80%	15.19%	11.63%	0.98%
Change due to asset loss	0.14%	0.00%	0.14%	0.00%
Change due to PEPRA New Entrants	-0.54%	-0.54%	0.00%	0.00%
Change due to demographic changes	0.05%	-0.08%	0.12%	0.01%
Change due to amortization payroll	0.14%	0.00%	0.13%	0.01%
Change due to contribution shortfall	0.03%	0.00%	0.03%	0.00%
Change due to assumption changes	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>
FYE 2019 Net Employer Contribution Rate	27.62%	14.57%	12.05%	1.00%

ATU PEPRA Summary				
	Non-PEPRA	PEPRA	Total	
1. Entry Age Normal Cost (Middle of Year)	\$ 4,004,461	\$ 500,943	\$	4,505,404
2. Covered Payroll (Normal Cost)	\$ 25,086,691	\$ 3,848,909	\$	28,935,600
3. Normal Cost as a Percent of Covered Payroll: (1) / (2)	15.96%	13.02%		15.57%
4. Expected Employee Contributions as a Percent of Covered Payroll	(0.16%)	(6.50%)		(1.00%)

Highlights (IBEW)



- Investment return on the market value of assets was 10.92%, net of investment expenses, compared to the 7.50% assumed rate of return
- The actuarial return on assets was 8.60% as a result of deferred investment gains from FYE 2013, 2014 and 2017, offset by recognition of losses from FYE 2015 and 2016, which resulted in a \$0.6 million gain and reduced the contribution rate by 0.40% of pay
- The net impact of demographic experience was a gain that reduced the liability by \$0.8 million and reduced the contribution rate by 0.50% of pay
- Payroll grew less than expected (0.39% increase vs. 3.15% assumed growth), which increased the UAL amortization and administrative expense rates by 0.34% of pay
- Inclusion of new PEPRA members reduced employer rate by 0.83% of pay
- Slightly higher contributions than expected reduced the contribution rate by 0.13% of pay

Highlights (IBEW)



IBEW Employer Contribution Reconciliation

Item	Total	Normal Cost	UAL Amortization	Admin Expense
FYE 2018 Total Employer Contribution Rate	25.31%			
Change due to phase-in	0.71%			
FYE 2018 Actuarial Contribution Rate	26.02%	12.75%	12.29%	0.98%
Change due to asset gain	-0.40%	0.00%	-0.40%	0.00%
Change due to PEPRA New Entrants	-0.83%	-0.83%	0.00%	0.00%
Change due to demographic changes	-0.50%	0.03%	-0.52%	-0.01%
Change due to amortization payroll	0.34%	0.00%	0.31%	0.03%
Change due to contribution excess	-0.13%	0.00%	-0.13%	0.00%
Change due to assumption changes	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>
FYE 2019 Net Employer Contribution Rate	24.50%	11.95%	11.55%	1.00%

IBEW PEPRA Summary

	Non-PEPRA	PEPRA	Total
1. Entry Age Normal Cost (Middle of Year)	\$ 1,291,643	\$ 233,803	\$ 1,525,446
2. Covered Payroll (Normal Cost)	\$ 9,655,093	\$ 2,160,783	\$ 11,815,876
3. Normal Cost as a Percent of Covered Payroll: (1) / (2)	13.38%	10.82%	12.91%
4. Expected Employee Contributions as a Percent of Covered Payroll	0.00%	(5.25%)	(0.96%)

Highlights (Salaried)



- Investment return on the market value of assets was 12.47%, net of investment expenses, compared to the 7.50% assumed rate of return
- The actuarial return on assets was 7.61% as a result of deferred investment gains from FYE 2013, 2014 and 2017, offset by recognition of losses from FYE 2015 and 2016, which resulted in a \$0.1 million gain and decreased the contribution rate by 0.03% of pay
- The net impact of demographic experience was a loss that increased the liability by \$4.6 million and increased the contribution rate by 0.56% of pay
- Payroll grew less than expected (3.2% decrease vs. 3.15% assumed growth), which increased the UAL amortization and administrative expense rates by 1.12% of pay
- Inclusion of new PEPRA members reduced employer rate by 0.84% of pay
- Slightly lower contributions than expected increased the contribution rate by 0.14% of pay

Highlights (Salaried)



Salaried Employer Contribution Reconciliation				
Item	Total	Normal Cost	UAL Amortization	Admin Expense
FYE 2018 Total 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	0.56%	0.00%	0.56%	0.00%
Change due to amortization payroll	1.12%	0.00%	1.04%	0.08%
Change due to contribution shortfall	0.14%	0.00%	0.14%	0.00%
Change due to assumption changes	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>
FYE 2019 Employer Contribution Rate	33.73%	15.16%	17.29%	1.28%

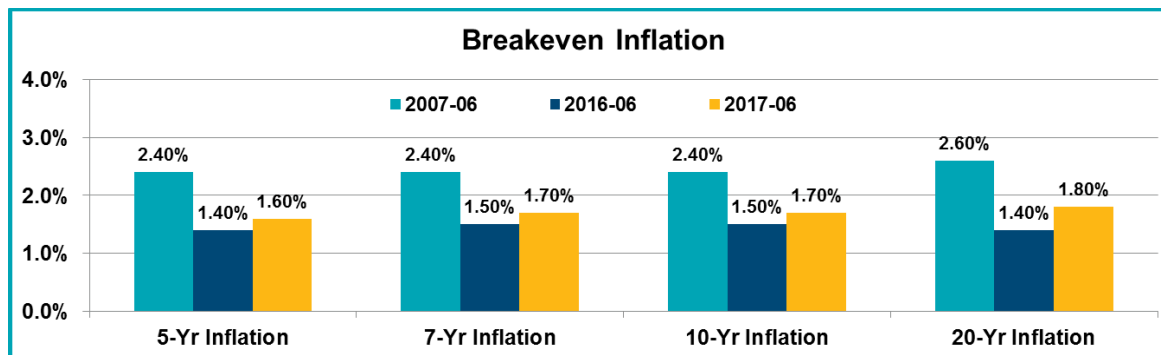
Salaried PEPRA Summary			
	Non-PEPRA	PEPRA	Total
1. Entry Age Normal Cost (Middle of Year)	\$ 3,275,112	\$ 261,405	\$ 3,536,517
2. Covered Payroll (Normal Cost)	\$ 20,052,738	\$ 2,423,549	\$ 22,476,287
3. Normal Cost as a Percent of Covered Payroll: (1) / (2)	16.33%	10.79%	15.73%
4. Expected Employee Contributions as a Percent of Covered Payroll	0.00%	(5.25%)	(0.57%)

- Inflation has remained low, and investment consultants have reduced expectations of future asset growth – particularly for equities – as a result of recent market changes
- Current Assumptions:
 - Inflation and wage growth: 3.15%
 - Real and nominal return: 4.35% / 7.50%
- Alternative Assumptions
 - Inflation and wage growth lowered to 3.00% (15bp)
 - Real Return lowered to 4.25% (10bp)
 - Nominal return of 7.25%

Assumption Alternatives



- Inflation has remained low, and investment consultants have reduced expectations of future asset growth – particularly for equities – as a result of recent market changes



SacRT Portfolio Return Expectations

Source	Nominal	Inflation	Real	Standard Deviation
Callan (10-year)	6.03%	2.25%	3.78%	12.39%
Callan (20-year)	6.53%	2.25%	4.28%	12.39%
Horizon (Survey, 10-year)	6.02%	2.24%	3.78%	11.93%
Horizon (Survey, 20-year)	7.20%	2.44%	4.76%	11.93%

Assumption Alternatives



Economic Assumptions Used by Public Retirement Systems in California					
System Name	Discount Rate	Real Return	Wage Inflation	Price Inflation	Valuation Date
AC Transit	7.250%	4.250%	3.00%	3.00%	1/1/2016
ACERA - Alameda County	7.600%	4.350%	3.75%	3.25%	12/31/2016
CalPERS - State	7.375%	4.625%	3.00%	2.75%	6/30/2016
CalSTRS - Defined Benefit	7.250%	4.375%	3.63%	2.88%	6/30/2016
City of Fresno - Employee System	7.250%	4.250%	3.50%	3.00%	6/30/2017
City of Fresno - Fire & Police	7.250%	4.250%	3.50%	3.00%	6/30/2017
City of San Jose Federated	6.875%	4.375%	2.85%	2.50%	6/30/2017
City of San Jose Police & Fire	6.875%	4.125%	3.25%	2.75%	6/30/2017
Contra Costa County ERA	7.000%	4.250%	3.25%	2.75%	12/31/2016
East Bay Municipal Utility District	7.250%	4.250%	3.50%	3.00%	6/30/2016
FCERA - Fresno County	7.000%	4.000%	3.50%	3.00%	6/30/2017
Golden Gate Transit	7.000%	3.750%	3.75%	3.25%	1/1/2017
ICERS - Imperial County	7.500%	4.250%	3.75%	3.25%	6/30/2016
KCERA - Kern County	7.250%	4.250%	3.50%	3.00%	6/30/2017
LACERA - Los Angeles County	7.250%	4.500%	3.25%	2.75%	6/30/2017
LACERS - Los Angeles City	7.250%	4.250%	3.50%	3.00%	6/30/2017
Los Angeles Fire & Police Pension	7.250%	4.250%	3.50%	3.00%	6/30/2017
Los Angeles Water and Power	7.250%	4.250%	3.50%	3.00%	7/1/2017
MCERA - Marin County	7.000%	4.250%	3.00%	2.75%	6/30/2017
MCERA - Mendocino County	7.000%	4.000%	3.50%	3.00%	6/30/2017
MCERA - Merced County	7.250%	4.750%	2.75%	2.50%	6/30/2017
OCERS - Orange County	7.250%	4.250%	3.50%	3.00%	12/31/2016
SamCERA - San Mateo County	6.750%	4.250%	3.00%	2.50%	6/30/2017
SBCERA - San Bernardino County	7.250%	4.250%	3.50%	3.00%	6/30/2017
SBCERS - Santa Barbara County	7.000%	4.250%	3.00%	2.75%	6/30/2017
SCERA - Sonoma County	7.250%	4.250%	3.50%	3.00%	12/31/2016
SCERS - Sacramento County	7.000%	4.000%	3.25%	3.00%	6/30/2017
SDCERA - San Diego County	7.250%	4.250%	3.50%	3.00%	6/30/2017
SDCERS - San Diego City	6.750%	3.700%	3.05%	3.05%	6/30/2017
San Diego Transit	6.750%	4.000%	2.75%	2.75%	6/30/2017
SFERS - San Francisco	7.500%	4.500%	3.50%	3.00%	7/1/2017
SJCERA - San Joaquin County	7.400%	4.500%	3.15%	2.90%	1/1/2017
SLOCPT - San Luis Obispo county	7.125%	4.500%	2.88%	2.63%	1/1/2016
StanCERA - Stanislaus County	7.250%	4.250%	3.25%	3.00%	6/30/2016
TCERA - Tulare County	7.250%	4.250%	3.00%	3.00%	6/30/2017
University of California	7.250%	4.250%	3.50%	3.00%	7/1/2016
VCERA - Ventura County	7.500%	4.500%	3.50%	3.00%	6/30/2017
Valley Transit Authority	7.000%	4.000%	3.50%	3.00%	1/1/2017
Minimum	6.75%	3.700%	2.75%	2.50%	
Mean (Average)	7.17%	4.251%	3.32%	2.92%	
Median (50th Percentile)	7.25%	4.250%	3.50%	3.00%	
Maximum	7.60%	4.750%	3.75%	3.25%	

- Current Assumptions:
 - Inflation and wage growth: 3.15%
 - Real and nominal return: 4.35% / 7.50%

- Based on discussions with Staff, calculated valuation results under alternative assumptions:
 - Inflation and wage growth lowered to 3.00% (15bp)
 - Real return lowered to 4.25% (10bp)
 - Nominal return of 7.25%

Alternative Assumptions (ATU)



- Alternative assumptions increase the contribution rate by 1.60% of pay, from 27.62% to 29.22%.
- If phase-in assumption change impact over three or five years, impact on contributions in years after phase-in completed is approximately 0.18% or 0.38% of pay, respectively

ATU Contribution Projection - with and without Phase-In			
Item	Full Contribution	3-Year Phase-In	5-Year Phase-In
FYE 2019 Total Employer Contribution Rate	29.22%	28.15%	27.93%
FYE 2020 Total Employer Contribution Rate	28.88%	28.35%	27.92%
FYE 2021 Total Employer Contribution Rate	28.98%	29.08%	28.46%
FYE 2022 Total Employer Contribution Rate	28.75%	28.93%	28.68%
FYE 2023 Total Employer Contribution Rate	27.83%	28.01%	28.16%
FYE 2024 Total Employer Contribution Rate	27.24%	27.43%	27.63%

Alternative Assumptions (IBEW)



- Alternative assumptions increase the contribution rate by 1.59% of pay, from 24.50% to 26.09%.
- If phase-in assumption change impact over three or five years, impact on contributions in years after phase-in completed is approximately 0.18% or 0.38% of pay, respectively

IBEW Contribution Projection - with and without Phase-In

Item	Full Contribution	3-Year Phase-In	5-Year Phase-In
FYE 2019 Total Employer Contribution Rate	26.09%	25.03%	24.81%
FYE 2020 Total Employer Contribution Rate	25.97%	25.44%	25.01%
FYE 2021 Total Employer Contribution Rate	26.26%	26.37%	25.75%
FYE 2022 Total Employer Contribution Rate	26.14%	26.32%	26.07%
FYE 2023 Total Employer Contribution Rate	25.34%	25.52%	25.67%
FYE 2024 Total Employer Contribution Rate	24.78%	24.96%	25.16%

Alternative Assumptions (Salaried)



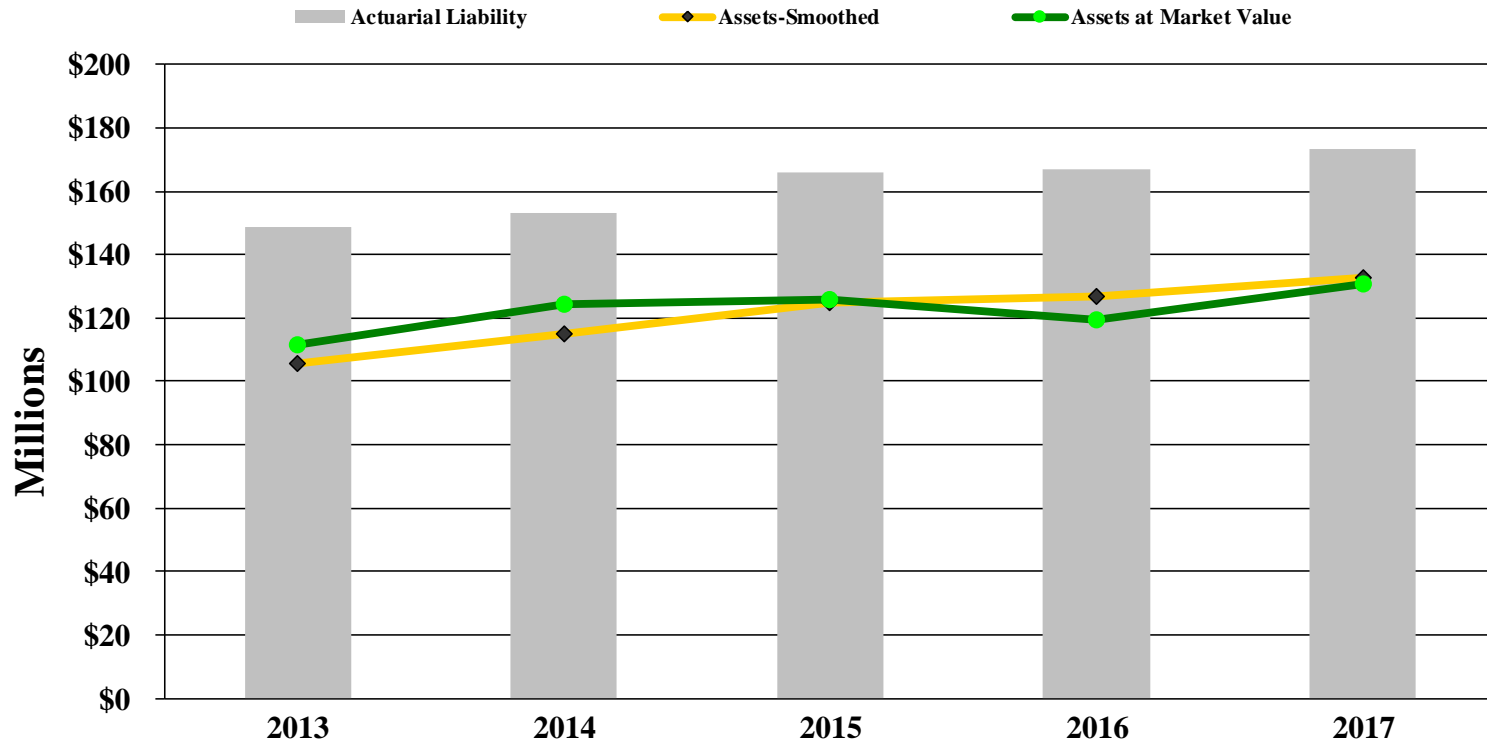
- Alternative assumptions increase the contribution rate by 1.70% of pay, from 33.73% to 35.43%.
- If phase-in assumption change impact over three or five years, impact on contributions in years after phase-in completed is approximately 0.20% or 0.41% of pay, respectively

Salaried Contribution Projection - with and without Phase-In			
Item	Full Contribution	3-Year Phase-In	5-Year Phase-In
FYE 2019 Employer Contribution Rate	35.43%	34.30%	34.07%
FYE 2020 Employer Contribution Rate	35.36%	34.80%	34.34%
FYE 2021 Employer Contribution Rate	35.39%	35.50%	34.85%
FYE 2022 Employer Contribution Rate	35.13%	35.31%	35.05%
FYE 2022 Employer Contribution Rate	34.21%	34.40%	34.56%
FYE 2023 Employer Contribution Rate	33.58%	33.78%	33.99%

Historical Review (ATU)



Assets and Liabilities

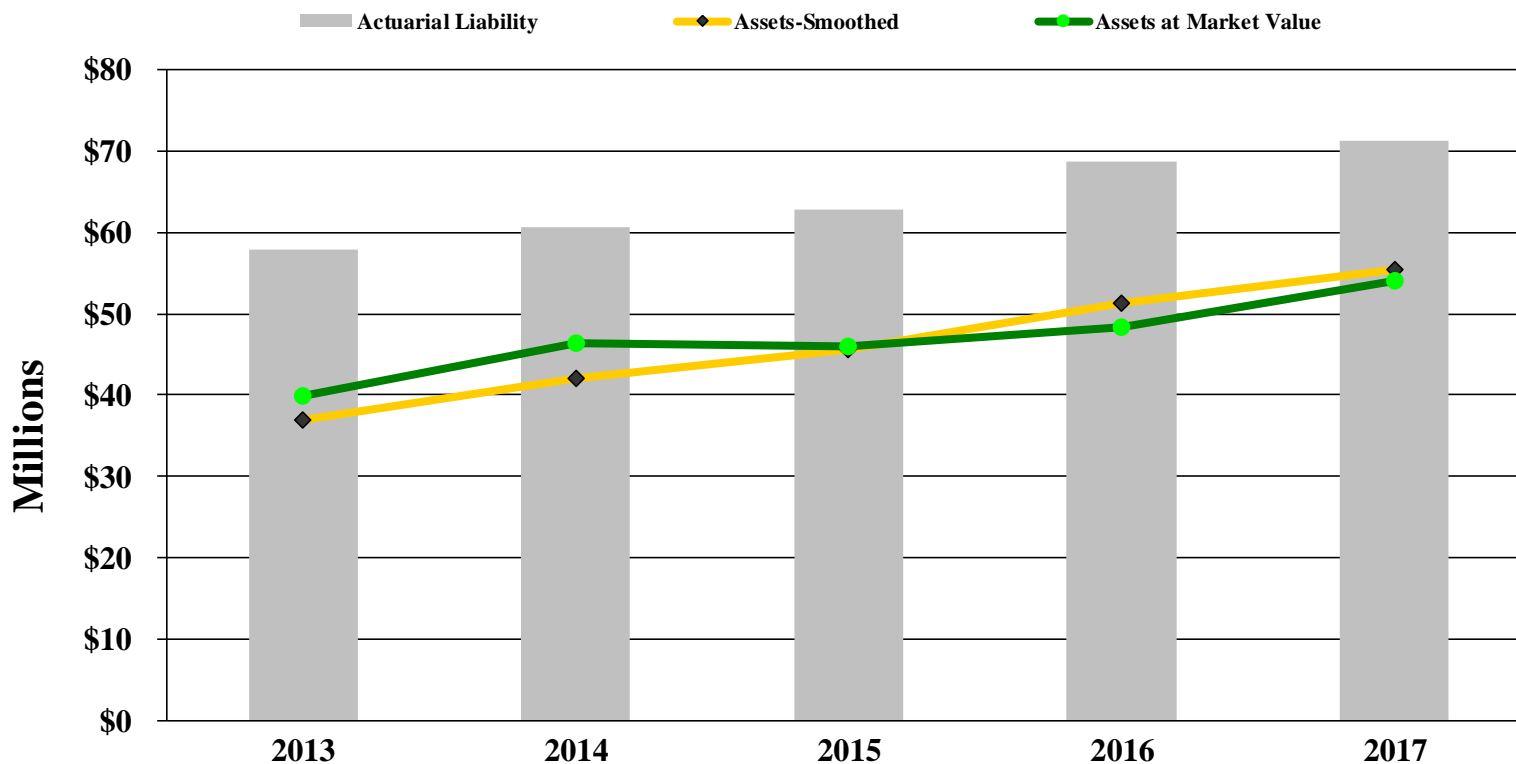


Valuation Year	2013	2014	2015	2016	2017
AVA Funded Ratio	71.0%	75.1%	75.3%	75.9%	76.6%
UAL (Millions)	\$ 43.2	\$ 38.1	\$ 41.1	\$ 40.3	\$ 40.7

Historical Review (IBEW)



Assets and Liabilities

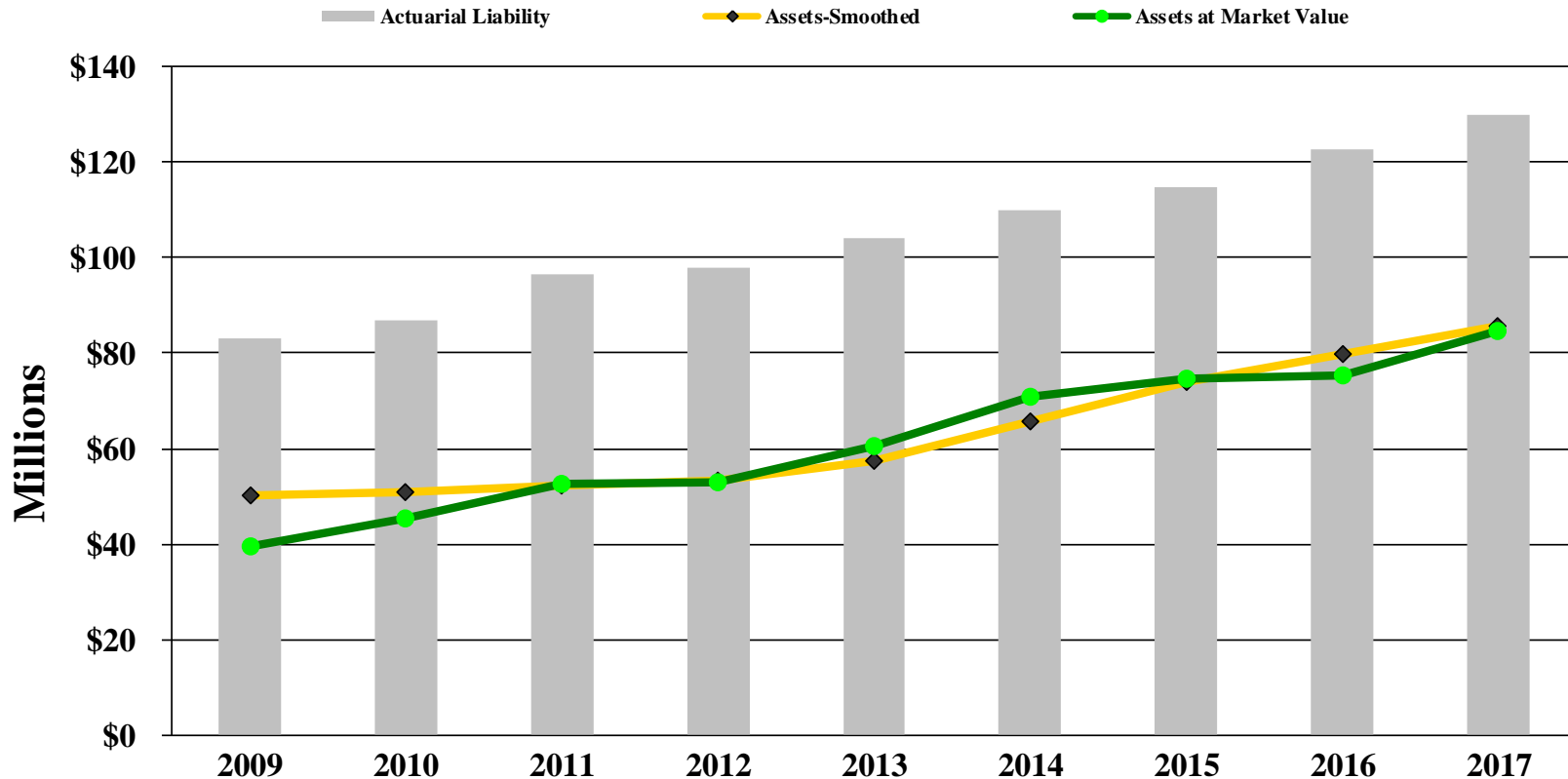


Valuation Year	2013	2014	2015	2016	2017
AVA Funded Ratio	63.9%	69.3%	72.5%	74.6%	77.9%
UAL (Millions)	\$ 20.9	\$ 18.6	\$ 17.3	\$ 17.5	\$ 15.7

Historical Review (Salaried)



Assets and Liabilities



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%	66.0%
UAL (Millions)	\$ 32.8	\$ 35.9	\$ 44.3	\$ 44.5	\$ 46.6	\$ 44.5	\$ 41.0	\$ 43.0	\$ 44.2

- Collect feedback from Board
 - Confirm assumptions to use for final valuation results
- Complete peer review process and produce updated calculations, including projections, as necessary
- Finalize July 1, 2017 Actuarial Valuation

Required Disclosures



The purpose of this presentation is to present the preliminary results of the annual actuarial valuation of the Sacramento Regional Transit Retirement Plans. This presentation is for the use of the Sacramento Regional Transit Retirement Boards in accordance with applicable law.

In preparing our presentation, we relied on information (some oral and some written) supplied by the Sacramento Regional Transit Retirement Plans. This information includes, but is not limited to, the 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.

I hereby certify that, to the best of my knowledge, this presentation and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices that are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board. Furthermore, as a credentialed actuary, I meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this presentation. This presentation does not address any contractual or legal issues. I am not an attorney, and our firm does not provide any legal services or advice.

This presentation was prepared exclusively for the Sacramento Regional Transit Retirement Boards for the purpose described herein. This presentation is not intended to benefit any third party, and Cheiron assumes no duty or liability to any such party.

The actuarial assumptions, data, and methods are those that will be used in the preparation of the actuarial valuation report as of June 30, 2017.

The assumptions reflect our understanding of the likely future experience of the Plans, and the assumptions as a whole represent our best estimate for the future experience of the Plans. The results of this presentation are dependent upon future experience conforming to these assumptions. To the extent that future experience deviates from the actuarial assumptions, the true cost of the plan could vary from our results.

Graham A. Schmidt ASA, FCA, EA
Consulting Actuary





CHEIRON



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