



# Sacramento Regional Transit District Agenda

**SPECIAL MEETING OF THE IBEW RETIREMENT BOARD FOR THE EMPLOYEES AND  
RETIREES OF THE SACRAMENTO REGIONAL TRANSIT DISTRICT  
3:00 P.M., MONDAY, MAY 10, 2021 via Webex**

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## **ROLL CALL**

Directors: Li, Kennedy, Bibbs, McCleskey  
Alternates: Jennings, Pickering

## **OLD BUSINESS**

- 1.Motion: Review Actuarial Experience Study and Adopt Economic and Demographic Assumptions. (IBEW) (Gobel)
2. Motion: Accept Actuarial Valuation and Approve Actuarially Determined Contribution Rates for Fiscal Year 2022. (IBEW) (Gobel)

## **ADJOURN**

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### NOTICE TO THE PUBLIC

It is the policy of the Boards of Directors of the Sacramento Regional Transit District Retirement Plans to encourage participation in the meetings of the Boards of Directors. At each open meeting, members of the public shall be provided with an opportunity to directly address the Board on items of interest to the public that are within the subject matter jurisdiction of the Boards.

This agenda may be amended up to 72 hours prior to the meeting being held. An agenda, in final form, is located by the front door of Regional Transit's building at 1400 – 29<sup>th</sup> Street and posted to SacRT's website at [www.sacrt.com](http://www.sacrt.com).

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# RETIREMENT BOARD STAFF REPORT

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**DATE:** May 10, 2021 Agenda Item: 1  
**TO:** Sacramento Regional Transit Retirement Board – IBEW  
**FROM:** John Gobel, Manager, Pension and Retirement Services  
**SUBJ:** Adoption of Economic and Demographic Assumptions Required for Completion of Actuarial Valuation Report

## **RECOMMENDATION**

Adopt the attached Resolution(s)

## **RESULT OF RECOMMENDED ACTION**

Adoption of Economic and Demographic Assumptions required to finalize Annual Valuation prepared as of July 1, 2020.

## **FISCAL IMPACT**

The Actuarial Experience Study compares the long-term assumptions used to gauge the liabilities of the IBEW Retirement Plan (“Plan”) and establish contribution rates against the Plan’s real world experience for a multi-year period. The purpose of doing so is to maintain a reasonable degree of confidence in the Plan’s economic and demographic assumptions and, as data dictates, effect any necessary adjustments.

While assumption changes can impact the calculation of liabilities for past events and the normal of cost of pension benefits moving forward, the annual cost of these changes is typically expressed in a separate actuarial valuation. To that end, the Retirement Board is also receiving two potential actuarial valuations as a separate Agenda item. These actuarial valuations apply different reductions in discount rates and quantify the impact on Plan costs. Fiscal impact to Sacramento Regional Transit District is discussed further in the materials accompanying Agenda Item 2.

## **DISCUSSION**

Following discussion by all five of the Retirement Boards at the Special Meeting of the Retirement Boards on May 5, 2021, IBEW Retirement Board action on this item was continued to this May 10, 2021 meeting.

At the May 5, 2021 meeting, the other four Sacramento Regional Transit District Retirement Boards adopted versions of the attached resolution in accordance with the staff-recommended 6.75% discount rate and associated actuarial assumptions.

As the ATU, IBEW and Salaried Employee Retirement Plans (“Plans”) are pooled for investment and related purposes, Staff proposes that the IBEW Retirement Board take the same action.

### Background

At the March 10, 2021 meeting of the Retirement Boards, the consulting actuary for the Plans, Graham Schmidt of Cheiron, presented information regarding the experience study in progress for the five-year cycle from July 1, 2015 through June 30, 2020. As a reminder, the experience study reviews activity for a timeframe that is more statistically significant than a single year and uses that data to assess the Plans’ assumptions regarding economic and demographic matters. When differences exist between the Plans’ current assumptions and long-term expectations, the actuary may recommend certain changes for incorporation into the actuarial valuations.

While discussing the preliminary experience study at the last meeting of the Retirement Boards, Mr. Schmidt recommended a reduction in the Plans’ current inflation assumption of as much as 50 basis points or one-half of one percent. Given this assessment and the fact that the inflation assumption is a component of the Plans’ long-term assumed rate of return or “discount rate,” Mr. Schmidt recommended adoption of a new discount rate, to be finalized at the next meeting of the Retirement Boards. Mr. Schmidt discussed current projections by industry experts regarding expected inflation and capital market returns of the next 10-year and 20-year periods, and based on that data, recommended adoption of an inflation assumption of 2.50%, wage inflation and payroll/amortization assumptions of 2.75%, and a discount rate of 6.75%. Mr. Schmidt presented an alternative recommendation of an inflation assumption of 2.75%, wage inflation and payroll/amortization assumptions of 3.00%, and a discount rate of 7.00%. Based on current industry standard, Mr. Schmidt recommended, under either Option: (1) using 20-year layers for amortizing gains and losses and assumption/method changes and (2) using shorter layers for benefit changes.

After discussion at the March 10, 2021 meeting, the Retirement Board requested that the actuary prepare two valuations for presentation to the Board:

1. One that reflects a 6.75% discount rate, 2.50% inflation, 2.75% wage growth, and 20-year layered amortization for gains/losses, and a 3-year phase-in, and
2. One that reflects a 7.00% discount rate, 2.75% inflation, 3.00% wage growth, and 20-year layered amortization for gains/losses with no phase-in.

Mr. Schmidt also explained that the Retirement Boards would need to address and make decisions about the assumptions provided in the forthcoming experience study prior to adopting the actuarial valuation reports at their next meeting.

### Impact

The Actuarial Experience Study provides recommendations and, in some cases, options to the Retirement Boards for changing certain economic and demographic assumptions. In turn, these assumptions will be reflected in the actuarial valuation reports prepared as of July 1, 2020 and will impact contribution rates for the fiscal year beginning July 1, 2021. Those rates reflect the actuarially-determined contribution (“ADC”) required from the employer and one-half of the normal cost of benefits required from employees whose retirement formulas are dictated by the Public Employees’ Pension Reform Act of 2013 (“PEPRA”).

### Economic Assumptions – Summary of Options

Because Plan assets are held in a common trust and subject to a uniform asset allocation, Cheiron presents the same two sets of economic assumptions for all three Plans. These options are reviewed in the Executive Summary of the study, which begins on page 1:

- Option 1: A 0.50% reduction in inflation to 2.50%, with a corresponding reduction in the nominal rate of return to 6.75%, with no change to the real rate of return. In addition, reductions in the annual wage and payroll increases to 2.75%.
- Option 2: A 0.25% reduction in inflation to 2.75%, with a corresponding reduction in the nominal rate of return to 7.00%, with no change to the real rate of return. Annual wage and payroll increases remain at 3.00%.

In discussing a reduction of the 7.25% discount rate used for the prior year’s valuation to either one of the acceptable options (7.00% or 6.75%), Cheiron acknowledges that changes in economic assumptions have the largest impact on a plan’s funded status and contribution requirements. This impact is illustrated by Table I-1b, which considers the impact of the proposed assumption changes on the IBEW Plan. Per that table, adoption of a 7.00% discount rate increases the employer’s ADC to the IBEW Plan by 1.55% (and is part of a net contribution rate that is 3.68% higher than the prior year), while adoption of 6.75% discount rate increases the ADC by an additional 1.54% (and is part of a net contribution rate that is 5.21% higher than the prior year).

Employee contributions paid to the IBEW Plan by PEPRA members can also be affected by a reduction of the discount rate, but not to the same degree as employer contributions. For example, without any changes in economic assumptions, the member contribution rate for the IBEW plan stays at 6.00%. If the Retirement Boards adopt a different discount

rate, however, the PEPRA member contribution rate for the IBEW plan increases to 6.75% under a 7.00% discount rate and increases to 7.00% under at 6.75% discount rate.

While Cheiron has explained that either of the two Options for a new discount rate presented for consideration are reasonable, information provided by Cheiron demonstrates that achieving a lower nominal rate of return for any given year in the next 10 to 20-year period is more likely than a higher nominal rate of return:

- [A]ctual contributions will depend on actual investment returns and not the discount rate (or expected investment returns). If actual investment returns are lower than expected, contribution rates will increase in the future. It is important to set a realistic discount rate so that projections of future contributions for budgeting purposes will not be biased, particularly to be too low.

This is why a 6.75% discount rate is presented as the first of two options for economic assumptions and why a 7.00% discount rate is described as the alternative:

- We suggest that the Board retain the current real return assumption of 4.25% and reduce the nominal return assumption from 7.25% to 6.75%, consistent with the proposed reduction in the inflation assumption from 3.00% to 2.50%. Alternatively, if the Board adopts a 2.75% inflation assumption, we suggest the nominal return be reduced to 7.00%.

#### Demographic Assumptions – Summary of Recommendations

Unlike the economic factors that establish the discount rate for the common trust at SacRT, demographic experience can and does vary across employee groups. For that reason, Cheiron's recommendations regarding demographic assumptions differ from plan to plan. While the recommended changes in demographic assumptions are detailed in Section III of the study (which begins on page 15), they are also highlighted in the Executive Summary. In the case of the IBEW Plan, Cheiron offers the following comments and recommendations regarding demographic assumptions:

- Merit salary increases – New rates are proposed for all plans.
- Retirement rates – No changes are proposed for ATU/IBEW members.
- Termination rates – Higher rates are proposed for ATU members for all service levels and for IBEW members with at least 10 years of service.
- Disability rates – Lower rates are proposed for ATU and IBEW members
- Mortality rates – We propose new mortality tables, based on the ATU mortality tables produced by Cheiron for ATU and IBEW (with adjustments)...

- Terminal pay loads – We suggest increasing the terminal pay load for ATU and IBEW members from 5.0% to 7.0%, consistent with the current load applied to Salaried members.
- Administrative expenses – We suggest increasing the assumption for administrative expenses paid by IBEW and reducing the assumptions for ATU and the Salaried plan.

### Recommendation & Decision

Based on analysis of the data presented in the experience study, national trends on inflation factors, Callan LLC's and other industry experts' projection of inflation and ten year estimate of annual returns, and the fiscal impact analysis, Staff recommends that the Retirement Board approve all demographic assumption changes as stated by Cheiron and accept the 6.75% annual rate of return, composed of a 2.50% inflation factor and 4.25% real investment return, with a 20 year layered amortization and three (3) year phase-in. The reduction to the lower annual assumed rate of return, via a reduction to the inflation rate, with the layered amortization and phase-in approach is intended to provide for a stable and attainable assumed rate of return for several years into the future. If investment performance exceeds the new rate of return assumption for any fiscal year, then the actuarial gain may reduce the ADC in future years through the smoothing process. This will help reduce the volatility in the ADC from year to year and provide level and stable funding to the Plans.

In order to finalize the Actuarial Experience Study, the Retirement Board must adopt economic assumptions that are consistent for all Plans and adopt the demographic assumptions endorsed by Cheiron for each Plan. Given these requirements, the Retirement Board initially was presented with the following two choices, but staff now proposes only the first option:

#### 1. RECOMMENDED ACTIONS *(Proposed for consistency with other Retirement Boards)*

Adopt the economic assumptions developed by Cheiron in support of a 6.75% discount rate:

- 0.50% reduction in inflation to 2.50%, with a corresponding reduction in the nominal rate of return to 6.75%, with no change to the real rate of return. In addition, reductions in the annual wage and payroll increases to 2.75%.

Adopt the demographic assumptions recommended by Cheiron for the IBEW Plan, which are summarized in this Staff Report and detailed in the latest Actuarial Experience Study for the period from July 1, 2015 through June 30, 2020

OR

## 2. ALTERNATE ACTIONS

Adopt the economic assumptions developed by Cheiron in support of a 7.00% discount rate:

- 0.25% reduction in inflation to 2.75%, with a corresponding reduction in the nominal rate of return to 7.00%, with no change to the real rate of return. Annual wage and payroll increases remain at 3.00%.

Adopt the demographic assumptions recommended by Cheiron for the IBEW Plan, which are summarized in this Staff Report and detailed in the latest Actuarial Experience Study for the period from July 1, 2015 through June 30, 2020

Administration of the various Sacramento Regional Transit District Pension Plans requires consistency for purposes of actuarial assumptions as the Plans' funds are pooled for investment and related purposes. Accordingly, staff requests that the IBEW Retirement Board select the staff recommendation.

**RESOLUTION NO. 21 - \_\_\_\_\_**

**SACRAMENTO REGIONAL TRANSIT RETIREMENT BOARD RESOLUTION**

Adopted by the Board of Directors for the Retirement Plan for the Sacramento Regional Transit District Employees who are Members of the **IBEW** on this date:

**May 10, 2021**

**Adoption of Economic and Demographic Assumptions Required for Completion of Actuarial Valuation Report**

NOW, THEREFORE, BE IT HEREBY RESOLVED BY THE RETIREMENT BOARD OF DIRECTORS OF THE SACRAMENTO REGIONAL TRANSIT DISTRICT FOR EMPLOYEES WHO ARE MEMBERS OF THE IBEW LOCAL UNION AS FOLLOWS:

THAT the Retirement Board hereby adopts the economic assumptions presented in the Actuarial Experience Study for July 1, 2015 through June 30, 2020 in support of a 6.75% discount rate.

THAT the Retirement Board hereby adopts the demographic assumptions recommended in the Actuarial Experience Study for July 1, 2015 through June 30, 2020 for the Retirement Plan Between International Brotherhood of Electrical Workers Local Union 1245, AFL-CIO and Sacramento Regional Transit District.

\_\_\_\_\_  
CONSTANCE BIBBS, Chair

ATTEST:

Henry Li, Secretary

By:

\_\_\_\_\_  
John Gobel, Assistant Secretary





## **Retirement Plans for Employees of Sacramento Regional Transit District**

**Actuarial Experience Study for  
July 1, 2015 through June 30,  
2020**

**Produced by Cheiron**

**April 2021**

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April 29, 2021

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

Dear Members of the Boards:

The purpose of this report is to present an Actuarial Experience Study of the Retirement Plans for Employees of Sacramento Regional Transit District (SacRT Retirement Plans, the Plans) covering actuarial experience from July 1, 2015 through June 30, 2020. The report includes analyses and proposed economic and demographic assumptions to be used beginning with the July 1, 2020 actuarial valuation.

In preparing our report, we relied on information (some oral and some written) supplied by SacRT. 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.

Cheiron utilizes ProVal, an actuarial valuation software program leased from Winklevoss Technologies (WinTech), to calculate liabilities and projected benefit payments. We have reviewed the underlying workings of this model to the degree feasible and consistent with Actuarial Standard of Practice No. 56 and believe them to be appropriate for the purposes of this experience study report.

We certify that this report 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 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.

This report was prepared for the SacRT Retirement Boards for the purposes described herein. This report is not intended to benefit any other party, and Cheiron assumes no duty or liability to any such party.

If you have any questions about the report or would like additional information, please let us know.

Sincerely,  
Cheiron



Graham A. Schmidt, ASA, FCA, MAAA, EA  
Consulting Actuary



Anne D. Harper, FSA, MAAA, EA  
Principal Consulting Actuary

**RETIREMENT PLANS FOR EMPLOYEES OF SACRAMENTO REGIONAL TRANSIT DISTRICT  
ACTUARIAL EXPERIENCE STUDY AS OF JUNE 30, 2020**

**SECTION I – EXECUTIVE SUMMARY**

Actuarial assumptions (economic and demographic) are intended to be long-term in nature and should be both individually reasonable and consistent in the aggregate. The purpose of this experience study is to evaluate whether or not the current assumptions adequately reflect the long-term expectations for SacRT, and if not, to suggest adjustments. It is important to note that frequent and significant changes in the actuarial assumptions are not typically recommended, unless there are known fundamental changes in expectations of the economy, or with respect to SacRT's membership or assets that would warrant such frequent or significant changes.

This study does not take into account any of the implications on a short or long term basis of the impact COVID-19 may have on the Plans, other than those that are reflected in the data through June 30, 2020. As the long term implications of COVID-19 are still uncertain, we have not made any adjustments to our proposed assumptions at this time.

**SUMMARY OF ECONOMIC ASSUMPTION ANALYSIS**

The specific economic assumptions analyzed in this report are price inflation, wage and pensionable payroll growth, and the discount rate. These assumptions have a significant impact on the contribution rates in the short-term and the risk of negative outcomes in the long-term. The current economic assumptions are an assumed 7.25% normal rate of return on Plan assets, a 3.00% annual increase in prices measured by the Consumer Price Index (CPI), and annual wage and payroll increases of 3.00%. This results in a real rate of return assumption of 4.25% (7.25% normal return minus 3.00% inflation).

Two sets of economic assumptions were discussed at the March 2021 Retirement Boards meeting and are proposed in this report. We note that other combinations of economic assumptions are also reasonable.

- A 0.50% reduction in inflation to 2.50%, with a corresponding reduction in the nominal rate of return to 6.75%, with no change to the real rate of return. In addition, reductions in the annual wage and payroll increases to 2.75%.
- A 0.25% reduction in inflation to 2.75%, with a corresponding reduction in the nominal rate of return to 7.00%, with no change to the real rate of return. Annual wage and payroll increases remain at 3.00%.

The current real return assumption of 4.25% is moderately more optimistic than the 2021 medium term (10-year) capital market assumptions from the Plan's investment consultant (Callan), as well as from a 2020 survey of investment consultants, but more conservative than the long-term expectations (20 years or longer) from the same survey. Other data presented in this report indicate that the inflation and wage growth expectations suggested herein are reasonable.

However, the nominal assumed earnings rate is higher than the 10-year capital market assumptions of Callan for the current target portfolio. The 10-year projections reported by Callan include an average annual return on investments of 5.8%, with 2.0% assumed annual inflation. If the current target asset allocation is maintained and Callan's projections are realized, the Boards can expect a pattern of actuarial losses from the assets in the near term, though they may be partially offset by liability gains if wage increases are below the assumed rate over the same time period.

## SECTION I – EXECUTIVE SUMMARY

### SUMMARY OF DEMOGRAPHIC ASSUMPTION ANALYSIS

This experience study specifically analyzes and makes the following suggestions for the demographic assumptions to better align with actual experience.

- **Merit salary increases** – New rates are proposed for all plans.
- **Retirement rates** – No changes are proposed for ATU/IBEW members. Modifications are proposed for Salaried members to increase the overall expected rates of retirement.
- **Termination rates** – Higher rates are proposed for ATU members for all service levels and for IBEW members with at least 10 years of service. New service-only based rates are proposed for Salaried members, replacing the current age and service-based rates.
- **Disability rates** – Lower rates are proposed for ATU and IBEW members. We propose eliminating the disability rates for Salaried members.
- **Mortality rates** – We propose new mortality tables, based on the ATU mortality tables produced by Cheiron for ATU and IBEW (with adjustments) and the Pri-2012 Bottom Quartile (BQ) tables for Salaried (with adjustments). Generational improvement for all members is proposed from the base year of these tables, using MP-2020.
- **Terminal pay loads** – We suggest increasing the terminal pay load for ATU and IBEW members from 5.0% to 7.0%, consistent with the current load applied to Salaried members.
- **Administrative expenses** – We suggest increasing the assumption for administrative expenses paid by IBEW and reducing the assumptions for ATU and the Salaried plan.

The body of this report provides additional detail and support for our conclusions and suggestions.

### COST OF ECONOMIC AND DEMOGRAPHIC ASSUMPTION CHANGES

The changes to the economic assumptions have the largest impact on funded status and contributions. Among the demographic assumptions, the proposed changes to mortality and service-based merit/longevity rates have the largest impact on contribution rates.

Tables I-1a through I-1c summarize the estimated total (employer plus employee) cost impact for each plan (ATU, IBEW and Salaried, respectively) from the proposed changes to demographic and economic assumptions contained in this report in the next year, while Tables I-2a through I-2c summarize the estimated funded status and PEPRAs member contribution rates under each alternative. The cost impacts have been measured using the proposed funding policies, in particular a 20-year level percentage of payroll amortization of the change in the Unfunded Actuarial Liability (UAL).

**RETIREMENT PLANS FOR EMPLOYEES OF SACRAMENTO REGIONAL TRANSIT DISTRICT  
ACTUARIAL EXPERIENCE STUDY AS OF JUNE 30, 2020**

**SECTION I – EXECUTIVE SUMMARY**

**Table I-1a (ATU)**

<b>Changes in Total Cost due to Proposed Assumption Changes</b>		
	<b>FY2020-21 ADC</b>	<b>% of pay</b>
Mortality	\$ (3,254)	-0.01%
Retirement	30,063	0.09%
Termination	(156,886)	-0.47%
Disability	4,742	-0.01%
Salary Scale / Method	(141,621)	-1.46%
Terminal Pay Load	142,671	0.40%
Administrative Expenses	(42,292)	-0.11%
Economic (7.00% discount rate)	507,176	1.46%
<b>All Changes (7.00% discount rate)</b>	<b>340,599</b>	<b>-0.11%</b>
Economic (6.75% discount rate)	435,141	1.24%
<b>All Changes (6.75% discount rate)</b>	<b>\$ 775,740</b>	<b>1.13%</b>

**Table I-2a (ATU)**

<b>Impact on June 30, 2020 Liabilities resulting from Assumption Changes (\$ thousands)</b>				
	<b>Current Assumptions</b>	<b>Proposed Demographic Assumptions</b>	<b>Economic Changes ( 7.00% / 3.00% / 2.75% )</b>	<b>Economic Changes ( 6.75% / 2.75% / 2.50% )</b>
Actuarial Accrued Liability	\$ 190,149	\$ 192,105	\$ 196,698	\$ 200,934
Actuarial Value of Assets	143,382	143,382	143,382	143,382
Unfunded/(Surplus) AAL	\$ 46,767	\$ 48,723	\$ 53,316	\$ 57,553
Change from Current		\$ 1,956	\$ 6,549	\$ 10,786
Funded Percent	75.4%	74.6%	72.9%	71.4%
Change from Current		-0.8%	-2.5%	-4.0%
PEPRA Total Normal Cost Rate	14.23%	13.82%	14.43%	14.79%
PEPRA Member Rate	7.25%	7.25%	7.25%	7.25%

**RETIREMENT PLANS FOR EMPLOYEES OF SACRAMENTO REGIONAL TRANSIT DISTRICT  
ACTUARIAL EXPERIENCE STUDY AS OF JUNE 30, 2020**

**SECTION I – EXECUTIVE SUMMARY**

**Table I-1b (IBEW)**

<b>Changes in Total Cost due to Proposed Assumption Changes</b>		
	<b>FY2020-21 ADC</b>	<b>% of pay</b>
Mortality	\$ 13,799	0.09%
Retirement	33,598	0.23%
Termination	22,763	0.11%
Disability	5,552	0.02%
Salary Scale / Method	209,248	0.56%
Terminal Pay Load	67,896	0.45%
Administrative Expenses	99,914	0.66%
Economic (7.00% discount rate)	230,931	1.55%
<b>All Changes (7.00% discount rate)</b>	<b>683,701</b>	<b>3.68%</b>
Economic (6.75% discount rate)	197,258	1.31%
<b>All Changes (6.75% discount rate)</b>	<b>\$ 880,959</b>	<b>4.99%</b>

**Table I-2b (IBEW)**

<b>Impact on June 30, 2020 Liabilities resulting from Assumption Changes (\$ thousands)</b>				
	<b>Current Assumptions</b>	<b>Proposed Demographic Assumptions</b>	<b>Economic Changes ( 7.00% / 3.00% / 2.75% )</b>	<b>Economic Changes ( 6.75% / 2.75% / 2.50% )</b>
Actuarial Accrued Liability	\$ 84,061	\$ 86,584	\$ 88,798	\$ 90,791
Actuarial Value of Assets	63,138	63,138	63,138	63,138
Unfunded/(Surplus) AAL	\$ 20,924	\$ 23,446	\$ 25,660	\$ 27,653
Change from Current		\$ 2,523	\$ 4,736	\$ 6,730
Funded Percent	75.1%	72.9%	71.1%	69.5%
Change from Current		-2.2%	-4.0%	-5.6%
PEPRA Total Normal Cost Rate	12.27%	13.01%	13.62%	13.96%
PEPRA Member Rate	6.00%	6.00%	6.75%	7.00%

**RETIREMENT PLANS FOR EMPLOYEES OF SACRAMENTO REGIONAL TRANSIT DISTRICT  
ACTUARIAL EXPERIENCE STUDY AS OF JUNE 30, 2020**

**SECTION I – EXECUTIVE SUMMARY**

**Table I-1c (Salaried)**

<b>Changes in Total Cost due to Proposed Assumption Changes</b>		
	<b>FY2020-21 ADC</b>	<b>% of pay</b>
Mortality	\$ (605,493)	-2.24%
Retirement	386,913	1.52%
Termination	(133,934)	-0.46%
Disability	21,580	0.06%
Salary Scale / Method	531,017	2.53%
Terminal Pay Load	0	0.00%
Administrative Expenses	(54,529)	-0.20%
Economic (7.00% discount rate)	417,260	1.52%
<b>All Changes (7.00% discount rate)</b>	<b>562,815</b>	<b>2.73%</b>
Economic (6.75% discount rate)	393,850	1.49%
<b>All Changes (6.75% discount rate)</b>	<b>\$ 956,665</b>	<b>4.22%</b>

**Table I-2c (Salaried)**

<b>Impact on June 30, 2020 Liabilities resulting from Assumption Changes (\$ thousands)</b>				
	<b>Current Assumptions</b>	<b>Proposed Demographic Assumptions</b>	<b>Economic Changes ( 7.00% / 3.00% / 2.75% )</b>	<b>Economic Changes ( 6.75% / 2.75% / 2.50% )</b>
Actuarial Accrued Liability	\$ 161,330	\$ 162,023	\$ 166,131	\$ 169,967
Actuarial Value of Assets	105,062	105,062	105,062	105,062
Unfunded/(Surplus) AAL	\$ 56,268	\$ 56,962	\$ 61,069	\$ 64,905
Change from Current		\$ 694	\$ 4,801	\$ 8,637
Funded Percent	65.1%	64.8%	63.2%	61.8%
Change from Current		-0.3%	-1.9%	-3.3%
PEPRA Total Normal Cost Rate	12.73%	12.48%	12.76%	13.08%
PEPRA Member Rate	5.75%	6.25%	6.50%	6.50%



RETIREMENT PLANS FOR EMPLOYEES OF SACRAMENTO REGIONAL TRANSIT DISTRICT  
ACTUARIAL EXPERIENCE STUDY AS OF JUNE 30, 2020

SECTION II – ECONOMIC ASSUMPTIONS  
PRICE INFLATION

The economic assumptions used in actuarial valuations are intended to be long-term in nature and should be both individually reasonable and consistent with each other. The specific assumptions analyzed in this report are:

- **Price inflation** – used indirectly as an underlying component of other economic assumptions.
- **Wage inflation** – across the board wage growth used to project benefits and to amortize the unfunded liability as a level percentage of expected payroll.
- **Nominal Rate of Return/Discount rate** – used both to project long-term asset growth and to discount future cash flows in calculating the liabilities and costs of the Plan.

In order to develop suggestions for each of these assumptions, we considered historical data, both nationally and for the Plan, and expectations for the future, as expressed by the Plan’s investment consultant and the Boards.

PRICE INFLATION

Long-term price inflation rates are the foundation of other economic assumptions. In a growing economy, wages and investments are expected to grow at the underlying inflation rate plus some additional real growth rate, whether it reflects productivity in terms of wages or risk premiums in terms of investments.

Historical Data

Chart III-1 below shows inflation for the U.S. and for the Bay Area (the closest regional index published by the Bureau of Labor and Statistic) by individual year since 1950.

Chart II-1



Over the 70 years ending June 2020, the geometric average inflation rate for the U.S. has been about 3.5%, but this average is heavily influenced by the high inflation rates in the 1970s and early 1980s. Over the last 30 years, the geometric average inflation rate has been 2.3%, and it has only

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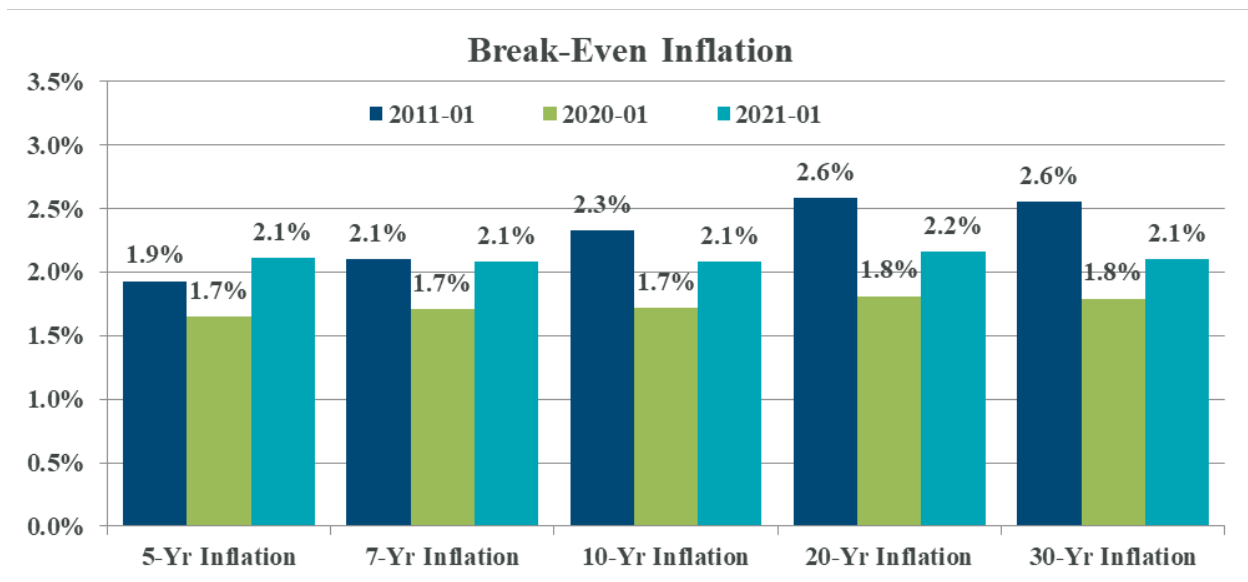
SECTION II – ECONOMIC ASSUMPTIONS  
PRICE INFLATION

been 1.7% over the last 10 years. The inflation rate for the Bay Area has generally tracked U.S. inflation reasonably closely but has been somewhat higher over the past decade.

**Future Expectations**

A measure of the market consensus of expected future inflation rates is the difference in yields between conventional treasury bonds/notes and Treasury Inflation-Protected Securities (TIPS) at the same maturity. Chart II-2 shows the break-even inflation rate as of January 2021, as well as one and 10 years earlier. Break-even inflation is the level of inflation needed for an investment in TIPS to “break even” with an investment in conventional treasury bonds/notes of the same maturity.

**Chart II-2**



Data Source Federal Reserve, Constant Maturity Yields, Monthly Series

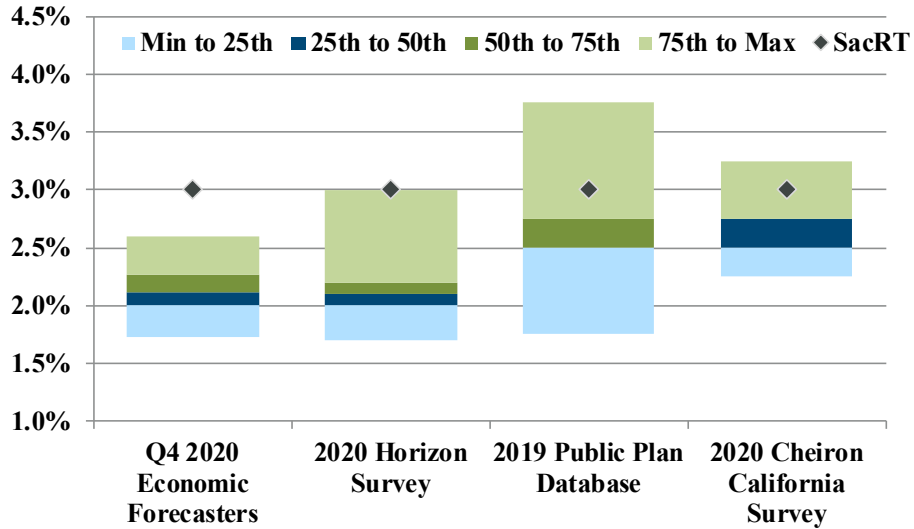
The Federal Reserve Bank of Philadelphia publishes a quarterly survey of professional economic forecasters. Chart II-3 on the next page shows the distribution of the professionals’ forecasts for average inflation over the next 10 years, compared to a survey of investment consultants performed by Horizon Actuarial Services, as well as a database of assumptions used by U.S. public pension plans and a Cheiron survey of assumptions used by California public pension plans.

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**SECTION II – ECONOMIC ASSUMPTIONS  
PRICE INFLATION**

**Chart II-3**

**Survey of CPI Assumptions**



<b>Minimum</b>	<b>1.73%</b>	<b>1.70%</b>	<b>1.75%</b>	<b>2.25%</b>
<b>25th Percentile</b>	<b>2.00%</b>	<b>2.00%</b>	<b>2.50%</b>	<b>2.50%</b>
<b>50th Percentile</b>	<b>2.12%</b>	<b>2.10%</b>	<b>2.50%</b>	<b>2.75%</b>
<b>75th Percentile</b>	<b>2.26%</b>	<b>2.20%</b>	<b>2.75%</b>	<b>2.75%</b>
<b>Maximum</b>	<b>2.60%</b>	<b>3.00%</b>	<b>3.75%</b>	<b>3.25%</b>

Finally, Callan, the Boards’ investment consultant, uses an inflation assumption of 2.00% for the next 10 years.

Considering all of these surveys, we believe a reasonable range for long-term price inflation for use in the Plan’s actuarial valuations is between 2.25% and 2.75%, and we propose that the Board reduce the inflation assumption from 3.00% to 2.50%. An alternative assumption of 2.75% would also be reasonable, particularly given recent upticks in inflation measures from changes in economic conditions and the potential for additional fiscal stimulus. If at the time of the next review of economic assumptions, the markets and forecasters continue to indicate lower expectations of future inflation, further reductions in the assumption could be considered.

**SECTION II - ECONOMIC ASSUMPTIONS**  
**WAGE INFLATION**

**WAGE INFLATION**

Wage inflation can be thought of as the annual across-the-board increase in wages. Individuals often receive salary increases in excess of the wage inflation rate, and we study these increases as a part of the merit salary scale assumption. Wage inflation generally exceeds price inflation by some margin reflecting the history of increased purchasing power. Wage inflation is used in the actuarial valuation as the minimum expected salary increase for an individual.

From 2009 through 2019, wage inflation for California public transit workers averaged approximately 2.7%, compared to annual Bay area inflation of 2.8%, resulting in essentially no real wage growth.

While governmental entities remain under financial stress (even more so now under the COVID-19 crisis) and other areas of employee compensation – most notably health care costs and pension contributions – wage inflation has continued to increase faster than the CPI. As a result, it is common to assume some additional level of base payroll increase beyond general inflation, reflecting some level of real wage growth. Potential reasons contributing to the real wage increase may include the presence of strong union representation in the collective bargaining process, competition in hiring among other similar employers, and regional factors – such as the local inflation index exceeding the national average, as has recently proven the case in parts of California. Also, while California transit workers did not experience much real wage growth from 2009 to 2019, there has been some real wage growth more recently, as base wage increases have been around 3% for most SacRT members over the last five years, somewhat higher than inflation. The Social Security Administration projects real wage growth of 0.6% – 1.8% going forward in their Social Security solvency projections.

If the Board adopts the proposed reduction in the price inflation assumption from 3.00% to 2.50%, we suggest that the Board increase the real wage growth assumption from 0.00% to 0.25%, for a 2.75% total wage growth assumption. This change brings the real wage growth assumption into closer alignment with the long-term assumption used by many other plans and the Social Security Administration in their projections. Similarly, if the Board adopts the alternative reduction in the price inflation assumption from 3.00% to 2.75%, we suggest that the Board retain a wage growth assumption of 3.00%, still reflecting a real wage growth assumption of 0.25%.

**SECTION II - ECONOMIC ASSUMPTIONS**  
**PAYROLL GROWTH**

**PAYROLL GROWTH**

The funding policy for SacRT is based on a “level percentage of payroll” methodology. This means that the amortization payments to fund the layers of the unfunded liability are designed to remain constant as a percentage of pensionable compensation (notwithstanding the phasing in and out of new layers).

In order to achieve this objective, an assumption regarding the rate of growth in overall pensionable compensation must be set. The dollar amount of the UAL payments will then be calculated to increase at this assumed rate of payroll growth. If actual payroll growth ends up being higher than the assumption, the UAL payments will decline as a percentage of pay, and if actual payroll growth is lower, the UAL payment rates will increase.

Traditionally for SacRT and most other public systems using level percentage of payroll methods, the assumed rate of payroll growth has been set equal to the wage growth assumption. This is consistent with an assumption that the pay for newly hired members will increase by the wage growth assumption each year, and that the Plan will have a stable active population – i.e., having a consistent number of active members and a stable distribution at various age and service levels – and that the increases in members’ pay will be pensionable.

However, there are several reasons why it may be reasonable to set a payroll/amortization growth rate lower than the wage growth assumption. As a result of the Public Employee Pension Reform Act (PEPRA), some pay amounts for new hires will not be pensionable, both because of the changes in the definition of pensionable compensation and the impact of the PEPRA wage cap. This means that even if overall wages grow by the full wage growth assumption, the amount of wages that are pensionable may grow by a smaller rate. In addition, budgetary stresses – such as those that may result from events such as the current COVID crisis – could cause payroll to increase less than expected. Finally, setting the amortization growth rate below the wage growth assumption increases the likelihood that UAL payments will decline rather than grow as a percentage of pay.

However, for SacRT most of the members of the largest bargaining group (ATU) are not expected to be affected by the PEPRA compensation limits. For now, we suggest retaining the current approach of setting the payroll/amortization growth assumption equal to the wage growth assumption of 2.75%. Using a payroll/amortization growth assumption 0.25% less than the wage growth assumption would also be reasonable and slightly more conservative.

SECTION II – ECONOMIC ASSUMPTIONS  
 DISCOUNT RATE

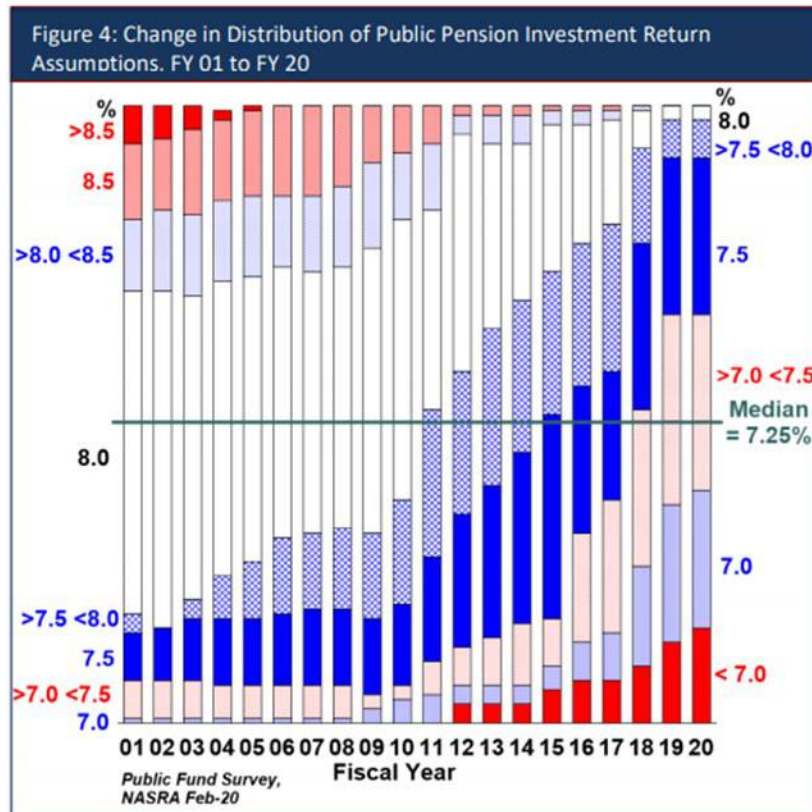
NOMINAL RATE OF RETURN/DISCOUNT RATE

The discount rate assumption is generally the most significant of all the assumptions employed in actuarial valuations. The discount rate is based on the long-term expected return on plan investments. In the short-term, a higher discount rate results in lower expected contributions. However, over the long term, actual contributions will depend on actual investment returns and not the discount rate (or expected investment returns). If actual investment returns are lower than expected, contribution rates will increase in the future. It is important to set a realistic discount rate so that projections of future contributions for budgeting purposes will not be biased, particularly to be too low.

Other Large Public Retirement Plans

Based on the Public Fund Survey, developed by the National Association of State Retirement Administrators (NASRA) covering most of the largest public retirement systems in the country, there has been a general movement over at least the last decade to reduce the discount rate used in actuarial valuations. Chart II-4 below shows the change in the distribution of assumptions since 2001. The median assumption is now 7.25% and the number of plans using a discount rate of 7.0% or lower has increased significantly.

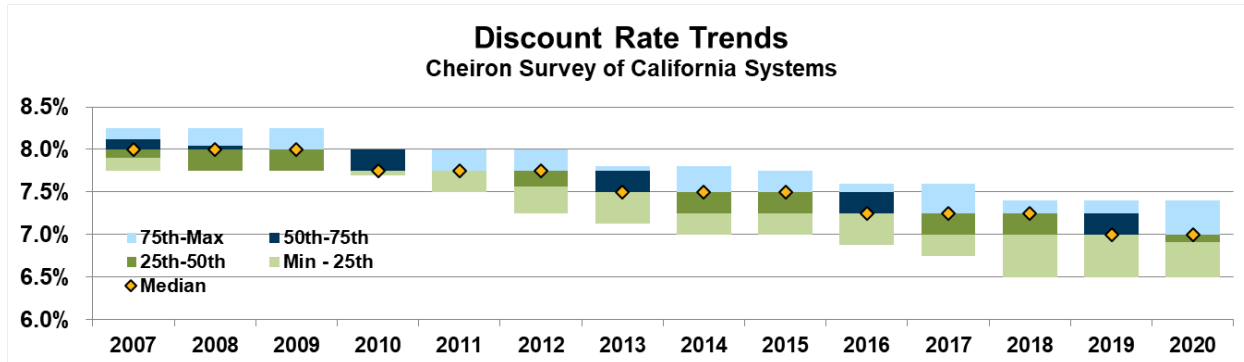
Chart II-4



**SECTION II – ECONOMIC ASSUMPTIONS  
DISCOUNT RATE**

In our survey of California retirement systems, only 13% were still using a discount rate of 7.25% or greater as of 2020. Chart II-5 below shows the change in discount rate assumptions for California systems from 2007 to 2020.

**Chart II-5**



**Target Asset Allocation and Future Expectations**

The nominal expected return on assets depends on the allocation of assets to different asset classes (e.g., stocks, bonds, etc.) and the capital market assumptions for each of the asset classes.

Table II-1 on the next page shows the expected nominal geometric return based on the Board’s current target asset allocation and the capital market assumptions provided by the Plan’s investment consultant (Callan), as well as an average set of capital market assumptions based on a survey of multiple investment consultants published by Horizon Actuarial Services. The table also shows the underlying inflation assumption used by each investment consultant in the development of their capital market assumptions and computes the expected real rate of return (investment return in excess of inflation). These results were produced using an internally developed model, which relies on asset class returns, standard deviations, and correlations provided by Callan and Horizon Actuarial Services, and which reflects an assumption that asset class returns are lognormally distributed.

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**SECTION II – ECONOMIC ASSUMPTIONS  
DISCOUNT RATE**

**Table II-1**

<b>SacRT Portfolio Return Expectations</b> (reflects 5bp adjustment for investment expenses)				
<b>Consultant</b>	<b>Nominal</b>	<b>Inflation</b>	<b>Real</b>	<b>Standard Deviation</b>
<b>Callan (10-year)</b>	5.96%	2.00%	3.96%	12.77%
<b>Horizon (Survey, 10-year)</b>	5.95%	1.98%	3.97%	12.23%
<b>Horizon (Survey, 20-year)</b>	<u>6.83%</u>	<u>2.17%</u>	<u>4.66%</u>	<u>12.23%</u>
<b>Average</b>	6.25%	2.05%	4.20%	12.41%
<b>Current Assumption</b>	7.25%	3.00%	4.25%	

We note that the returns in Table II-1 above were reduced by 0.05% to reflect investment fees on the SacRT portfolio. The public asset class returns provided by the investment consultants are based on the expected returns of the portfolio benchmark indices, whereas the private asset class expected returns provided are net of fees. The actuarial standards on selecting a return assumption (ASOP 27) state that in general superior or inferior returns (net of fees) should not be assumed for active versus passive management, therefore we do not recommend a significant adjustment to the modeled returns for the fees of active asset managers. However, a slight margin is appropriate to reflect the cost of investing in passively-managed public classes, as well as investment-related expenses other than those of the investment managers, which would include the investment advisor and custodian.

Based on these capital market assumptions, as adjusted for investment expenses as discussed above, we also calculated the potential distribution of nominal returns over 10-year and 20-year periods (as applicable), as shown in Table II-2 below. These results were determined based on the same internally developed model.

**Table II-2**

<b>Expected Distribution of Average Nominal Annual Investment Returns</b> (reflects 5bp adjustment for investment expenses)				
<b>Percentile</b>	<b>Callan (10-Year)</b>	<b>Horizon (10-Year)</b>	<b>Horizon (20-Year)</b>	<b>Average</b>
<b>95th</b>	12.7%	12.4%	11.4%	12.2%
<b>75th</b>	8.7%	8.6%	8.7%	8.6%
<b>60th</b>	<b>7.0%</b>	<b>6.9%</b>	<b>7.5%</b>	<b>7.1%</b>
<b>50th</b>	6.0%	5.9%	6.8%	6.2%
<b>40th</b>	<b>5.0%</b>	<b>5.0%</b>	<b>6.1%</b>	<b>5.4%</b>
<b>25th</b>	3.3%	3.4%	5.0%	3.9%
<b>5th</b>	-0.4%	-0.2%	2.5%	0.6%



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**SECTION II – ECONOMIC ASSUMPTIONS  
DISCOUNT RATE**

Finally, we calculated the likelihood of achieving various nominal and real return thresholds, using the same model as described above, with the results shown in Table II-3 below. We note that for the purposes of this analysis, we used the applicable constant inflation assumption from the assumption set to estimate the real return from the simulated nominal returns. This practice may result in inaccurate estimates to the extent that the real returns by asset class are not independent of inflation.

**Table II-3**

<b>Likelihood of Achieving Average Returns (reflects 5bp adjustment for investment expenses)</b>						
	<b>Nominal</b>			<b>Real</b>		
	<b>6.50%</b>	<b>6.75%</b>	<b>7.00%</b>	<b>3.75%</b>	<b>4.00%</b>	<b>4.25%</b>
<b>Callan (10-yr)</b>	45%	42%	40%	52%	50%	47%
<b>Horizon (10-yr)</b>	44%	42%	39%	52%	50%	47%
<b>Horizon (20-yr)</b>	55%	51%	48%	63%	60%	56%
<b>Average</b>	48%	45%	42%	56%	53%	50%

\* For purposes of this analysis, inflation assumption held constant using applicable rate from CMAs

As shown in Table II-1, we calculated an average expected geometric real return of 4.20%, which is slightly below the Board’s current real return assumption of 4.25%. The average nominal return of 6.25% is lower than the current nominal return assumption of 7.25%, as a result of the lower average inflation assumption (2.05%) underlying the consultant expectations.

We suggest that the Board retain the current real return assumption of 4.25% and reduce the nominal return assumption from 7.25% to 6.75%, consistent with the proposed reduction in the inflation assumption from 3.00% to 2.50%. Alternatively, if the Board adopts a 2.75% inflation assumption, we suggest the nominal return be reduced to 7.00%. We note that other combinations of real returns and inflation assumptions are also reasonable.

### SECTION III – DEMOGRAPHIC ASSUMPTIONS

Demographic assumptions are used to predict membership behavior, including rates of retirement, termination, disability, and mortality. These assumptions are based primarily on the historical experience of SacRT, with some adjustments where future experience is expected to differ from historical experience and with deference to standard tables where SacRT experience is not fully credible and a standard table is available. For purposes of this study, merit salary increases and administrative expenses are also considered demographic assumptions because the assumptions are based primarily on SacRT's historical experience.

#### MERIT SALARY INCREASES

Salary increases consist of three components: increases due to cost-of-living maintenance (inflation), increases related to non-inflationary pressures on base pay (such as productivity increases), and increases in individual pay due to merit, promotion, and longevity. Increases due to cost-of-living and non-inflationary base pay factors were addressed in an earlier section of this report.

The merit salary increase assumption is analyzed by employee group and by service. Generally, newer employees are more likely to earn a longevity increase or receive a promotion, so their salary increases tend to be greater than those for longer service employees. A *longitudinal* approach was used to analyze the merit increases for this study.

A longitudinal study reviews the average increase in pay for each level of service. To analyze the merit component, we subtracted the Plan's real wage growth each year – as provided by SacRT for each bargaining group – from the total pay increases experienced by each member during the experience study period.

Pay was computed using an updated method to determine the projected salary for the coming year, wherein the current rate of pay is multiplied by the average ratio of reported earnings divided by the beginning of year pay rate over each of the last five years.

Charts III-1, III-2, and III-3 on the following pages illustrate the results of the longitudinal study. It analyzes the pay patterns for ATU, IBEW and Salaried members, respectively.

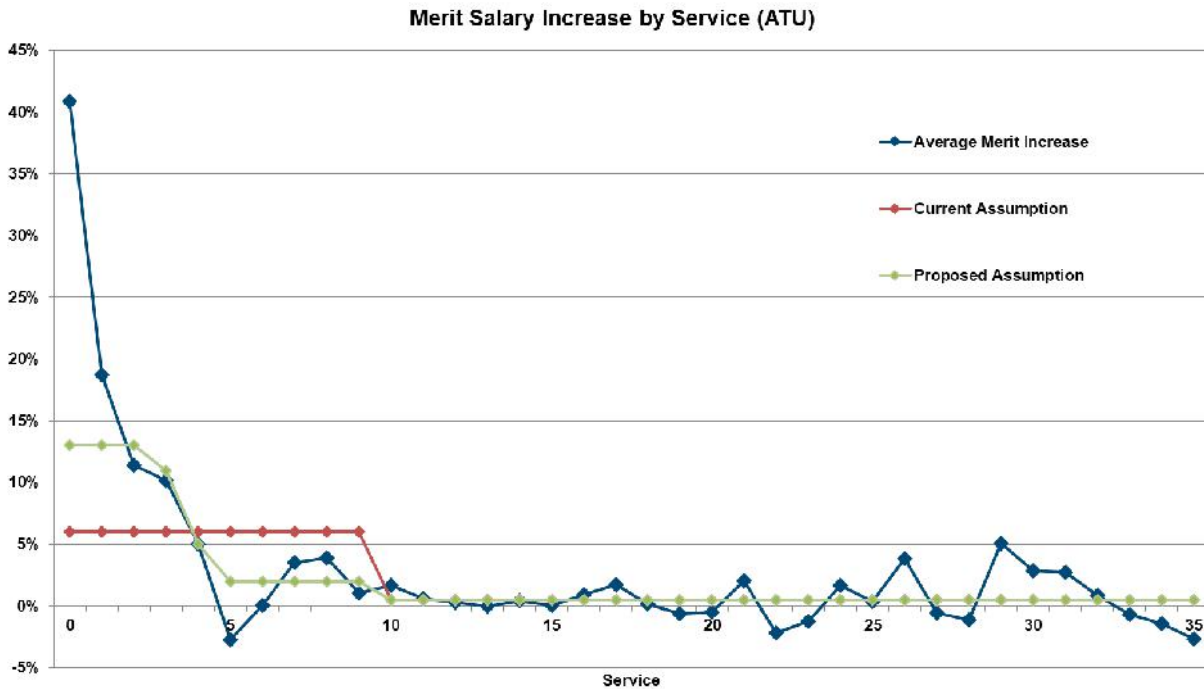
Our charts will generally show the current assumption (red line) compared to the actual experience (blue line) and the proposed assumption (green line). Where no change in assumption is proposed, the current assumption will not appear on the chart. We backed out the actual base wage growth using information provided by SacRT in order to isolate the merit, promotion, and longevity component.

For ATU members, the current assumption of 6.0% increases for the first 10 years of service and 0.5% thereafter is different than observed increases in merit pay during the first 10 years. We are suggesting higher rates of increase for the first four years (consistent with the known step increases included in the current contract) and reduced increases for the following six years (though still higher than the ultimate rate of increase of 0.5% per year).

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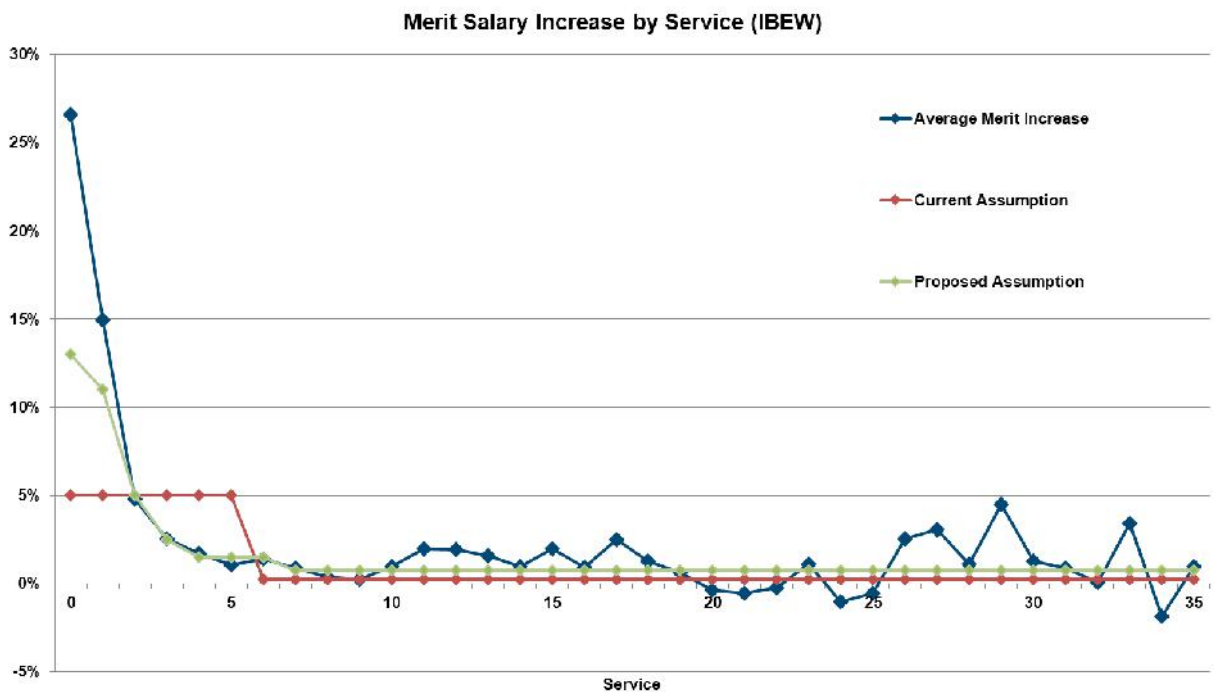
**SECTION III – DEMOGRAPHIC ASSUMPTIONS**

**Chart III-1**



For IBEW members the pattern is similar, with proposed increases to the assumptions for the first two years and lower rates in year three through five. We suggest an increase to the ultimate rate from 0.25% to 0.75%

**Chart III-2**

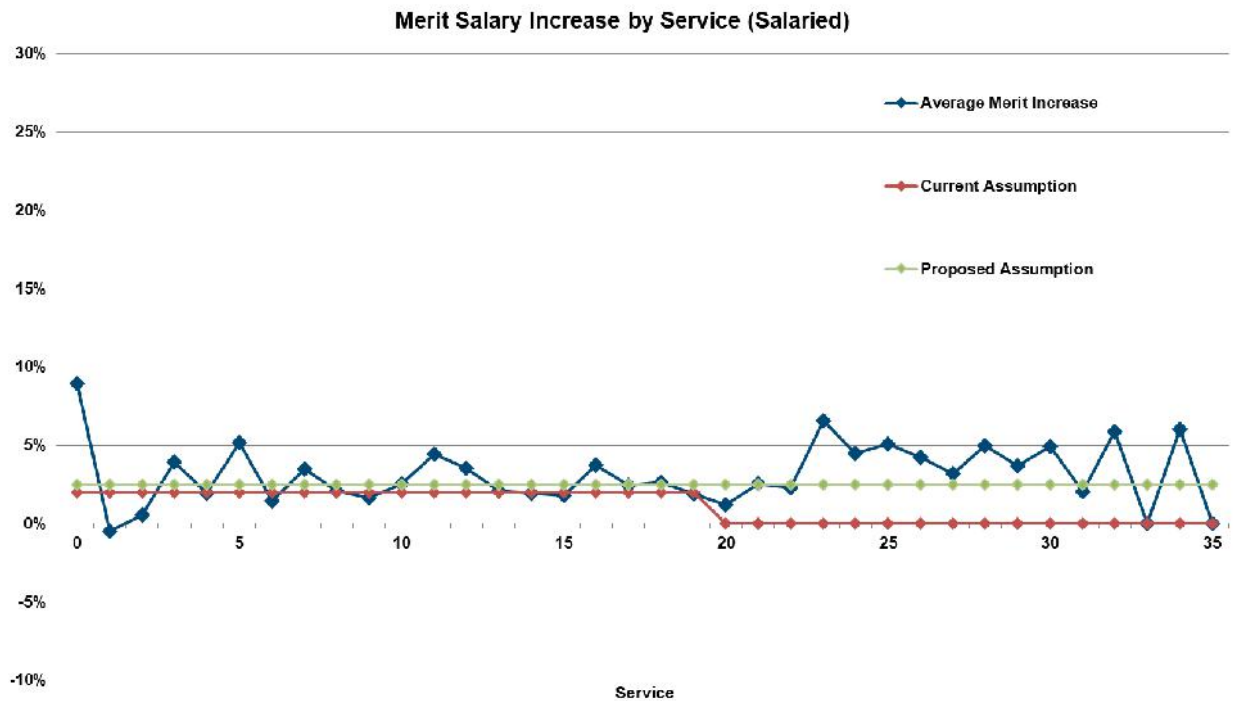


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SECTION III – DEMOGRAPHIC ASSUMPTIONS

Previously the assumptions for Salaried members were split between the AEA/MCEG and AFSCME bargaining groups, but our review of the experience found that there was not strong evidence to support the need for separate assumptions. We also found that the merit/longevity components of salary increases were continuing to be present at higher service levels (i.e. above 20 years of service). We suggest using a flat 2.50% rate of increase at all service levels for the Salaried members.

Chart III-3



### SECTION III – DEMOGRAPHIC ASSUMPTIONS

#### ANALYSIS OF OTHER DEMOGRAPHIC ASSUMPTIONS

For most of the remaining demographic assumptions, we determined the ratio of the actual number of decrements for each membership group compared to the expected number of decrements (A/E ratio or actual-to-expected ratio). If the assumption is perfect, this ratio will be 100%. Otherwise, any proposed assumption change should move from the current A/E ratio towards 100% unless future experience is expected to be different than the experience during the period of study.

In addition, we calculated the 90% confidence interval using a binomial distribution, which represents the range within which the true decrement rate during the experience study period fell with 90% confidence. We generally propose assumption changes when the current assumption is outside the 90% confidence interval of the observed experience. However, adjustments are made to account for differences between future expectations and historical experience, to account for the past experience represented by the current assumption, and to maintain a neutral to slight conservative bias in the selection of the assumption. For mortality rates, we compare SacRT's experience to that of a published table and adjust the tables to bring the proposed assumption closer to an A/E ratio of 100% taking into account the level and credibility of SacRT's experience.

Our internal model uses the limited fluctuation approach to credibility assigning full credibility when there is a 90% probability that SacRT's sample experience rate will be within 5% of the true expected rate. For assumptions where the expected rate is near zero, this approach requires 1082 actual decrements for full credibility. When there is insufficient experience for full credibility, partial credibility is assigned, weighting SacRT's experience by the square root of the ratio of actual decrements in the sample to the number of decrements required for full credibility. The remaining weight is given to the published table.

Essentially, this method results in relying on a combination of SacRT's experience, as well as standard tables produced based on studies of much larger populations. This is a commonly used technique for developing assumptions for smaller Plans such as SacRT's. Other methods of determining credibility may produce a different result.

To track how well the assumption fits the pattern of the data, we calculate the percentage of the assumptions that fall within the 90% confidence interval, and we calculate an r-squared statistic for each assumption. R-squared can be thought of as the percentage of the variation in actual data explained by the assumption, or a measure of how close the actual data will fall within the assumption over time. Ideally, all of the assumptions would fall within the 90% confidence interval and r-squared would equal 100% although this is never the case. Any proposed assumption change should increase the percentage of assumptions within the confidence interval and should increase the r-squared compared to the current assumption making it closer to 100% unless the pattern of future decrements is expected to be different from the pattern experienced during the period of study.

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**SECTION III - DEMOGRAPHIC ASSUMPTIONS  
RETIREMENT RATES**

**RETIREMENT RATES**

The current retirement rates vary by age and service and are applied to all members who are eligible to retire. Because of the size of the groups, we combined the experience from the prior experience study period (from 2011-2015) with the current period (2015-2020), to produce a more robust set of assumptions. In reviewing the data for SacRT, we found that at any given age, members with more service are generally more likely to retire than members with fewer years of service. Even with the combined dataset, SacRT isn't large enough to justify assumptions for each age and service combination, so instead there are separate assumptions by age for each of the following four service groups for ATU/IBEW and Salaried members:

- Members with five to nine years of service (excludes ATU),
- Members with 10 to 24 years of service,
- Members with 25 to 29 years of service,
- Members with 30 or more years of service.

Table III-R1 shows the calculation of actual-to-expected ratios and the r-squared statistic for ATU members across all service levels. Chart III-R1 show the comparison of the actual retirement rates by age groups to the assumptions.

The data shows actual retirement rates close to those expected under the current assumptions from 2011-2020. No assumption changes are proposed for the ATU members. However, we will continue to monitor these assumptions, particularly at age 55-59 where the assumed rates are at the bottom of the confidence interval.

**Table III-R1  
ATU**

<b>ATU Retirement Rates - All Years of Service</b>						
<b>Age</b>	<b>Exposures</b>	<b>Retirements</b>			<b>Actual to Expected Ratios</b>	
		<b>Actual</b>	<b>Current</b>	<b>Proposed</b>	<b>Current</b>	<b>Proposed</b>
50-54	34	5	3	3	153%	153%
55-59	513	41	31	31	134%	134%
60-64	417	53	56	56	95%	95%
65-69	163	48	43	43	110%	110%
<b>Total</b>	<b>1,127</b>	<b>147</b>	<b>133</b>	<b>133</b>	<b>110%</b>	<b>110%</b>
<b>R-squared</b>			<b>0.7475</b>	<b>0.7475</b>		

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**SECTION III - DEMOGRAPHIC ASSUMPTIONS  
RETIREMENT RATES**

**Chart III-R1  
ATU**

**ATU Retirement Rates - All Years of Service**

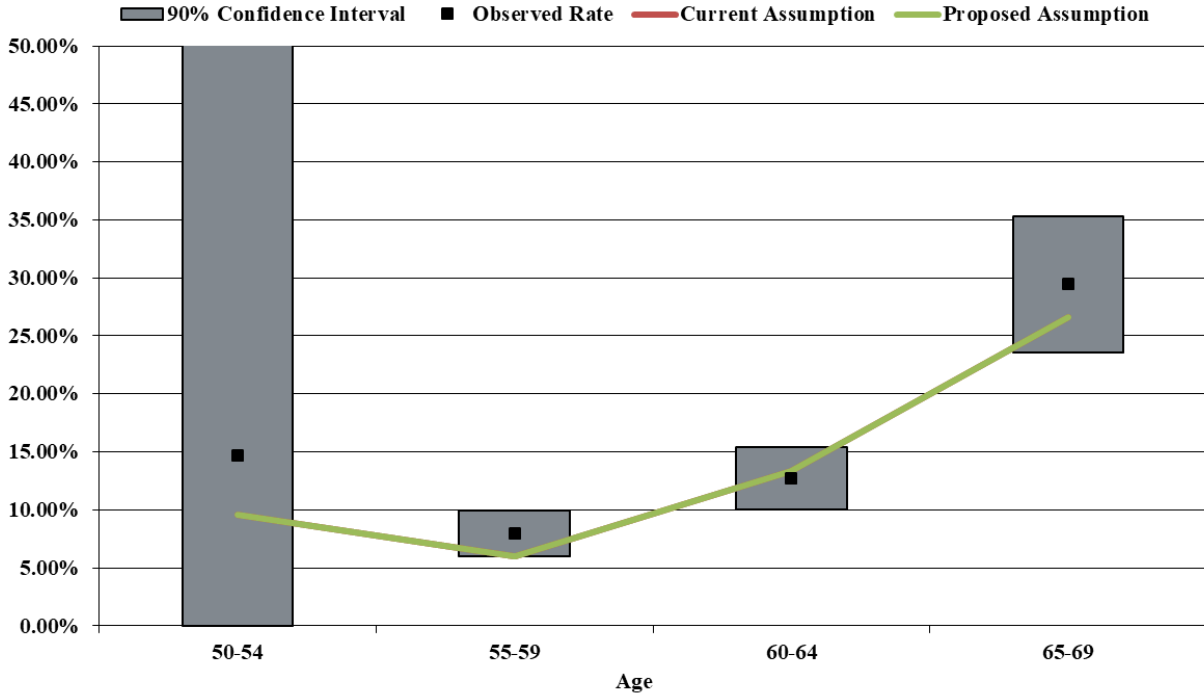


Table III-R2 shows the calculation of actual-to-expected ratios and the r-squared statistic for IBEW members. Chart III-R2 shows the information graphically.

The data shows actual retirement rates close to those expected under the current assumptions from 2011-2020. No assumption changes are proposed for the IBEW members. However, we will continue to monitor these assumptions, particularly at age 55-59 where the assumed rates are at the bottom of the confidence interval.

**Table III-R2  
IBEW**

<b>IBEW Retirement Rates - All Years of Service</b>						
<b>Age</b>	<b>Exposures</b>	<b>Retirements</b>			<b>Actual to Expected Ratios</b>	
		<b>Actual</b>	<b>Current</b>	<b>Proposed</b>	<b>Current</b>	<b>Proposed</b>
50-54	42	0	1	1	0%	0%
55-59	294	14	8	8	179%	179%
60-64	249	28	29	29	98%	98%
65-69	74	21	19	19	112%	112%
<b>Total</b>	<b>659</b>	<b>63</b>	<b>56</b>	<b>56</b>	<b>112%</b>	<b>112%</b>
<b>R-squared</b>			<b>0.6151</b>	<b>0.6151</b>		

SECTION III - DEMOGRAPHIC ASSUMPTIONS  
 RETIREMENT RATES

Chart III-R2  
 IBEW

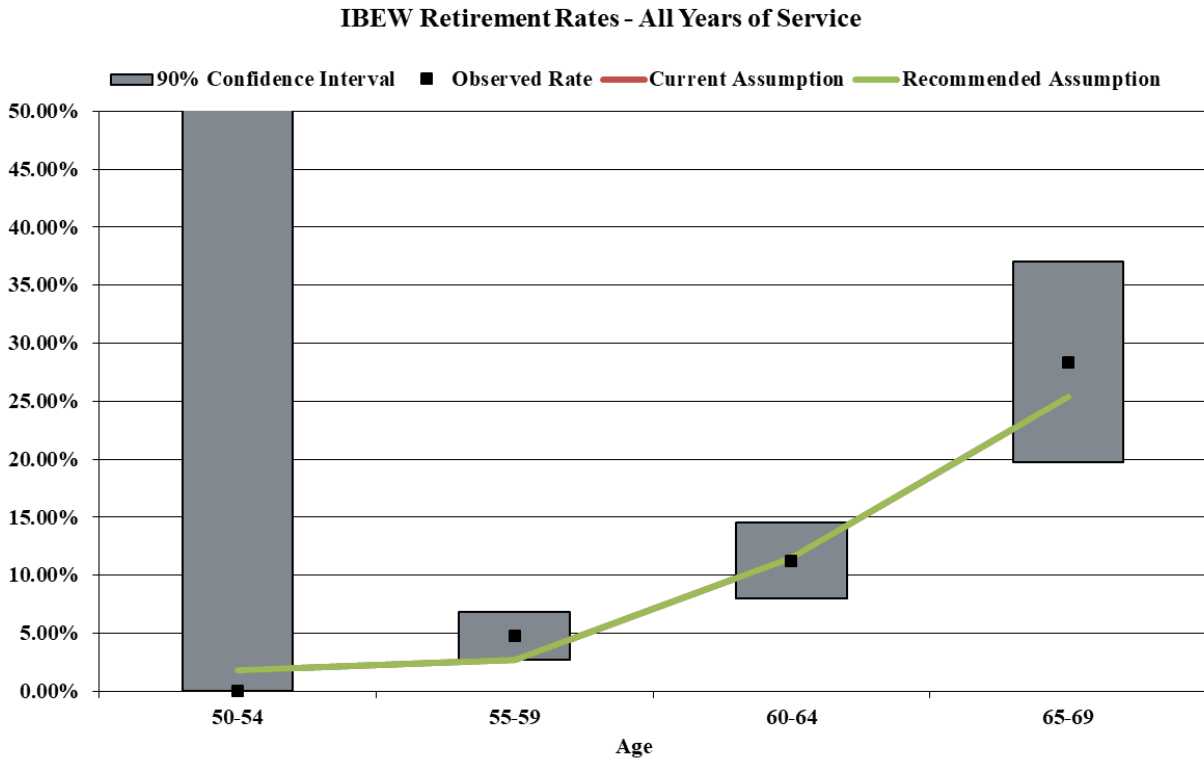


Table III-R3 shows the calculation of actual-to-expected ratios and the r-squared statistic for the Salaried groups and Chart III-R3 shows the information graphically.

The data shows higher actual retirement rates than expected under the current assumption, particularly between the ages of 60-64, where the actual number retiring was nearly double the number expected. We are proposing higher rates at most age and service combinations.

The proposed assumptions increase the aggregate assumed rate of retirement and decrease the aggregate A/E ratio from 129% to 95%. The r-squared also increases from 0.51 to 0.82. Refer to Appendix A for proposed rates and Appendix B for the prior rates by age at the various service groups.



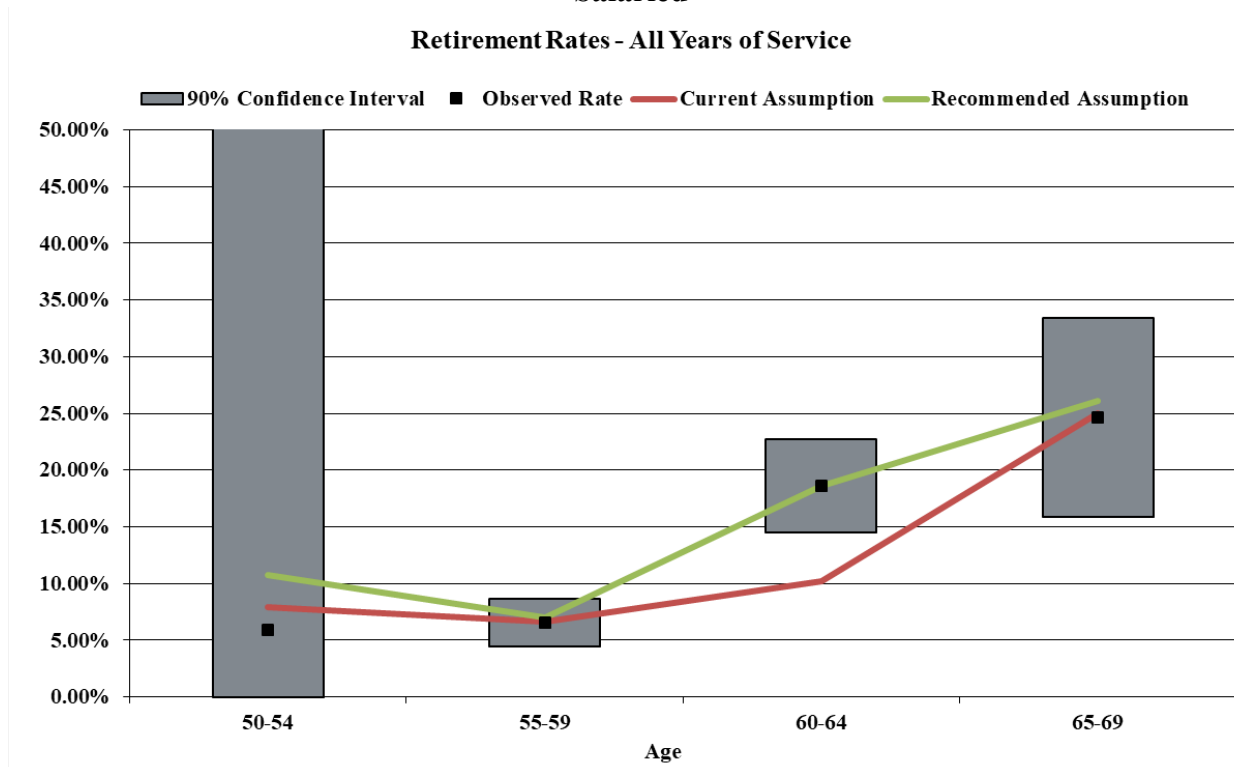
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**SECTION III - DEMOGRAPHIC ASSUMPTIONS  
RETIREMENT RATES**

**Table III-R3  
Salaried**

Retirement Rates - All Years of Service						
Age	Exposures	Retirements			Actual to Expected Ratios	
		Actual	Current	Proposed	Current	Proposed
50-54	34	2	3	4	74%	55%
55-59	367	24	24	26	99%	94%
60-64	242	45	25	45	183%	100%
65-69	65	16	16	17	98%	94%
<b>Total</b>	<b>708</b>	<b>87</b>	<b>68</b>	<b>91</b>	<b>128%</b>	<b>95%</b>
<b>R-squared</b>			<b>0.5108</b>	<b>0.8228</b>		

**Chart III-R3  
Salaried**



Although some have speculated that the reduced multipliers reflected in the PEPRAs benefits may result in members working longer than they would have under the old benefit formulas, we do not yet have enough experience to support a different set of assumptions. In addition, our initial modeling of the PEPRAs benefits revealed that the actuarially determined contribution rates required to fund these benefits are relatively insensitive to the actual retirement rates, as a result of the early retirement reductions reflected in the benefit formulas. We will continue to monitor the retirement behavior of the PEPRAs members as it develops and consider in future experience studies whether different sets of retirement rates are appropriate for these groups.

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**SECTION III - DEMOGRAPHIC ASSUMPTIONS  
TERMINATION RATES**

Termination rates reflect the frequency at which active members leave employment for reasons other than retirement, death or disability. Currently, ATU and IBEW have separate sets of service-based termination rates. Salaried members have an age and service based set of termination rates.

For each service group, we determined the ratio of the actual number of terminations at each age compared to the expected number of terminations (A/E ratio). If the assumption is perfect, this ratio will be 100%. Adjustments are made to account for differences between future expectations and historical experience, to account for the past experience represented by the current assumption, and to maintain a neutral to slight conservative bias in the selection of the assumption. As with the retirement experience, we have combined the termination experience from the current study period (2015-2020) with the experience from the prior study (2011-2015) to provide a more robust analysis.

Table III-T1 shows the calculation of actual-to-expected ratios and the r-squared statistic for ATU members, and Chart III-T1 shows the information graphically.

The data shows higher actual termination rates than expected under the current assumption. The proposed assumption increases the assumed rates of termination and decreases the aggregate A/E ratio from 159% to 103%. The r-squared decreases from 0.96 to 0.84, but the proposed assumptions still provide a good overall match to the data.

**Table III-T1**

<b>ATU Termination Rates</b>						
<b>Svc</b>	<b>Exposures</b>	<b>Terminations</b>			<b>Actual to Expected Ratios</b>	
		<b>Actual</b>	<b>Current</b>	<b>Proposed</b>	<b>Current</b>	<b>Proposed</b>
0-4	1,183	117	66	118	177%	99%
5-9	976	40	29	39	137%	102%
10-14	779	25	19	23	128%	107%
15-20	366	15	9	11	164%	137%
20-24	98	1	0	1	204%	102%
<b>Total</b>	<b>3,402</b>	<b>198</b>	<b>124</b>	<b>193</b>	<b>159%</b>	<b>103%</b>
<b>R-squared</b>			<b>0.9556</b>	<b>0.8401</b>		

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**SECTION III - DEMOGRAPHIC ASSUMPTIONS  
TERMINATION RATES**

**Chart III-T1**

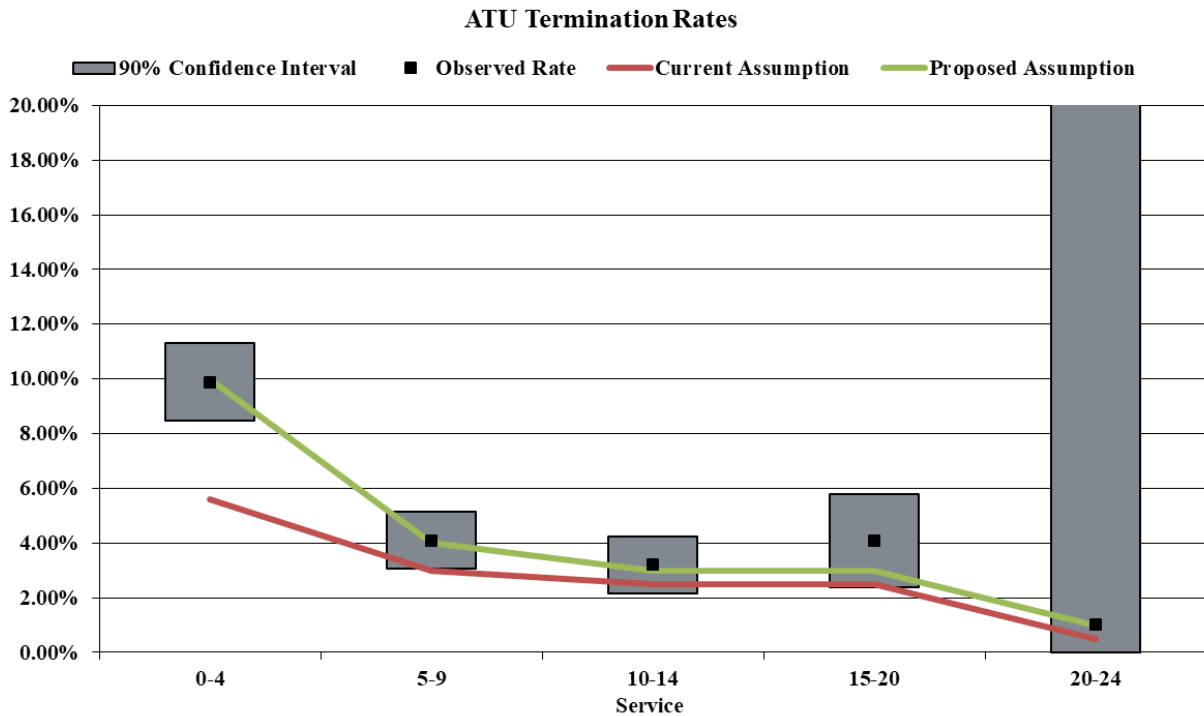


Table III-T2 shows the calculation of actual-to-expected ratios and the r-squared statistic for IBEW members, and Chart III-T2 shows the information graphically.

The data shows slightly higher actual termination rates than expected under the current assumptions. The proposed assumptions increase the assumed rates of termination and decreases the aggregate A/E ratio from 113% to 109%. The r-squared also increases slightly.

**Table IV-T2**

<b>IBEW Termination Rates</b>						
<b>Svc</b>	<b>Exposures</b>	<b>Terminations</b>			<b>Actual to Expected Ratios</b>	
		<b>Actual</b>	<b>Current</b>	<b>Proposed</b>	<b>Current</b>	<b>Proposed</b>
0-4	480	38	38	38	99%	99%
5-9	260	14	13	13	108%	108%
10-14	234	10	6	7	155%	142%
15-20	86	4	0	2	930%	233%
20-24	51	0	0	0	0%	0%
25+	0	0	0	0	0%	0%
<b>Total</b>	<b>1,111</b>	<b>66</b>	<b>59</b>	<b>60</b>	<b>113%</b>	<b>109%</b>
<b>R-squared</b>			<b>0.7073</b>	<b>0.7125</b>		

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TERMINATION RATES**

**Chart III-T2**

**IBEW Termination Rates**

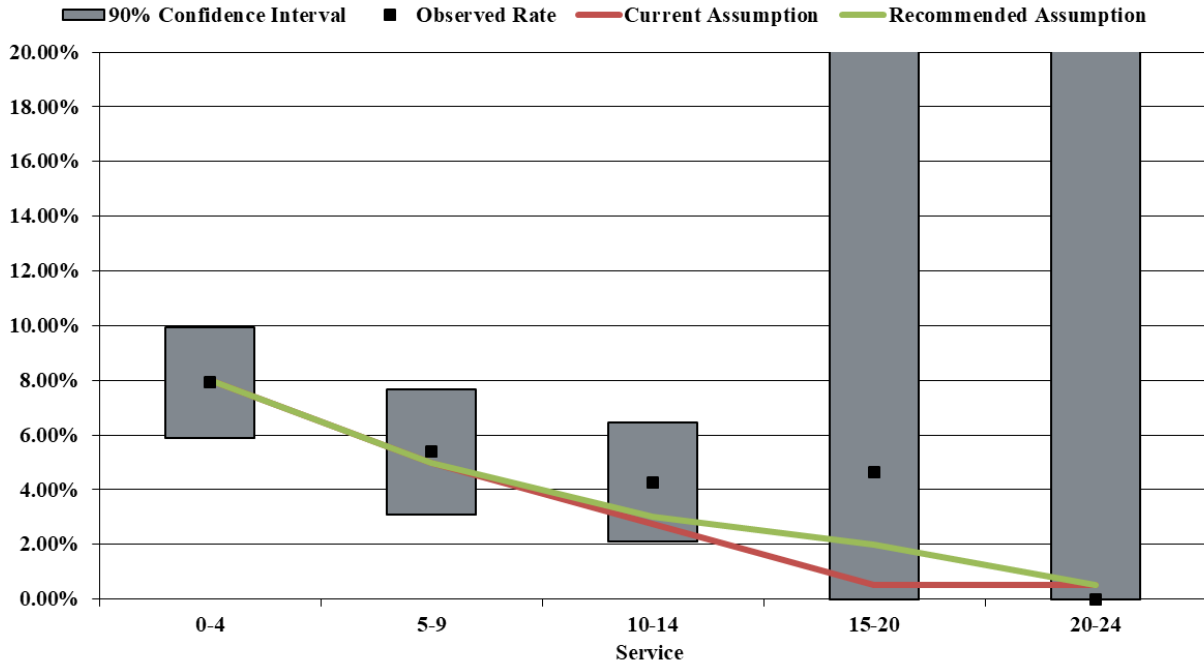


Table III-T3 shows the calculation of actual-to-expected ratios and the r-squared statistic for Salaried members, and Chart III-T3 shows the information graphically. Previously the Safety rates were based on age and service, but our recent analysis showed that service-based rates provide a reasonable fit to the data.

The data shows lower actual termination rates than expected under the current assumptions. The proposed assumption increases the aggregate A/E ratio from 120% to 102% percent. The r-squared decreases from 0.73 to 0.72.

**Table III-T3  
Salaried**

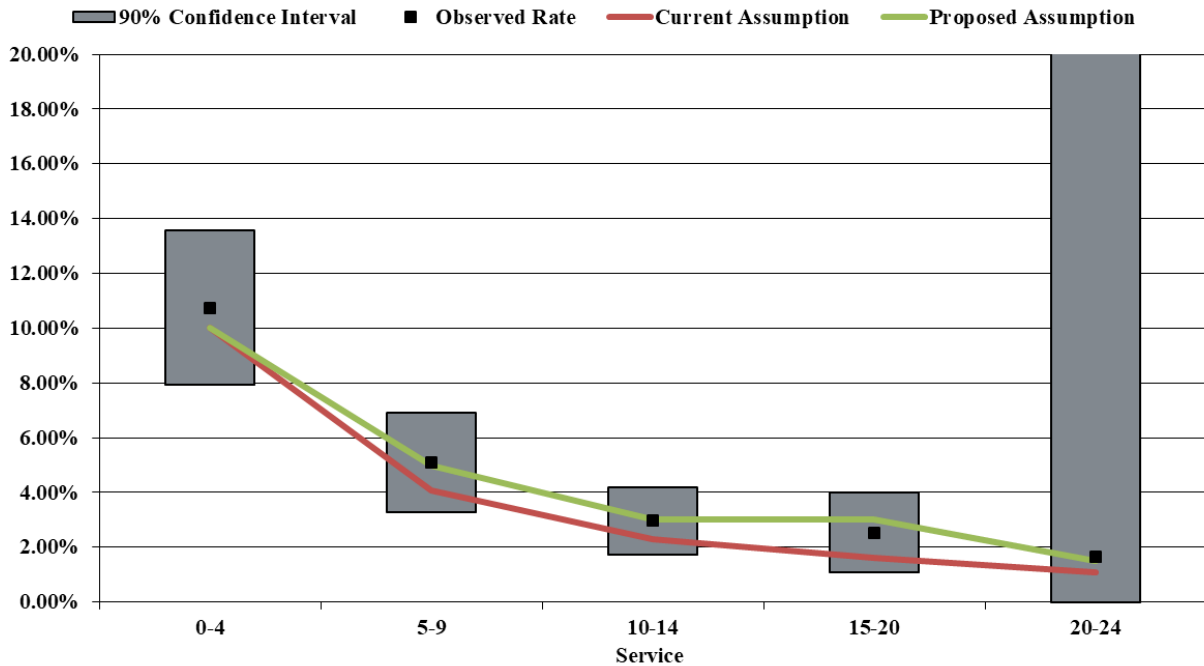
Salaried Termination Rates						
Svc	Exposures	Terminations			Actual to Expected Ratios	
		Actual	Current	Proposed	Current	Proposed
0-4	326	35	33	33	107%	107%
5-9	392	20	16	20	125%	102%
10-14	506	15	12	15	129%	99%
15-20	315	8	5	9	158%	85%
20-24	121	2	1	2	155%	110%
25+	0	0	0	0	0%	0%
<b>Total</b>	<b>1,660</b>	<b>80</b>	<b>67</b>	<b>79</b>	<b>120%</b>	<b>102%</b>
<b>R-squared</b>			<b>0.7316</b>	<b>0.7181</b>		

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SECTION III - DEMOGRAPHIC ASSUMPTIONS  
 TERMINATION RATES

Chart III-T3

Salaried Termination Rates



When a vested member who has made contributions to the Plan terminates employment, the member has the option of receiving a refund of contributions with interest or a deferred annuity. We currently assume that all vested members who terminate will elect to leave their contributions in the Plan and elect to receive a deferred annuity. We will monitor these elections as experience develops, and at the time of the next study we may implement an assumption as to the percentage of these members who may elect a refund, if indicated by the data.

We also reviewed the average age at which members with a deferred vested benefit will elect to commence receiving their retirement benefit. For all three groups (ATU, IBEW and Salaried), the average age of those commencing benefits in the past five years from deferred status was between 56 and 57, close to the current assumed commencement age of 55. No change to this assumption is proposed.

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**SECTION III - DEMOGRAPHIC ASSUMPTIONS  
DISABILITY RATES**

This section analyzes the incidence of disability by the age of the employee. There is one set of assumptions for ATU and IBEW members at each age for both males and females, as well as a set of unisex assumptions for Salaried members at each age. The disability decrement is only applied after members are eligible for disability benefits.

The amount of disability experience is fairly limited; only 12 disabilities have occurred during the last five years for ATU and IBEW members (after experiencing only 14 in the prior four years) and for the 2<sup>nd</sup> study period in a row there were no disabilities among Salaried members.

Because of the extremely low rates of disability for the Salaried members, we are proposing eliminating the disability rates for this group. If Salaried members do receive a disability benefit in future years that exceeds the value of the service retirement benefit they would otherwise be entitled to, actuarial losses may occur, but these are expected to be small given the prevalence of disabilities within this group.

Table III-D1 shows the calculation of actual-to-expected ratios and the r-squared statistic for male ATU and IBEW members, and Chart III-D1 shows the information graphically. As with the other decrements, we have combined the experience from 2015-2020 with the experience from the prior period from 2011-2015. Even with the combined experience, we cannot generate statistically significant confidence intervals, so we have removed them from the graphs.

The data continues to show lower disability rates than expected. The proposed assumption decreases the assumed rates of disability by 50% and increases the aggregate A/E ratio from 42% to 84%.

**Table III-D1**

<b>ATU/IBEW - Disability Incidence Rates (Males)</b>						
<b>Age Band</b>	<b>Exposures</b>	<b>Disabilities</b>			<b>Actual to Expected Ratios</b>	
		<b>Actual</b>	<b>Current</b>	<b>Proposed</b>	<b>Current</b>	<b>Proposed</b>
20 - 24	21	0	0	0	0%	0%
25 - 29	101	0	0	0	0%	0%
30 - 34	174	0	1	0	0%	0%
35 - 39	248	0	1	1	0%	0%
40 - 44	318	0	2	1	0%	0%
45 - 49	464	3	4	2	80%	161%
50 - 54	684	4	6	3	65%	130%
55 - 59	701	2	7	4	29%	57%
60 - 64	591	1	6	3	15%	31%
65 - 69	221	1	0	0	0%	0%
70 +	58	1	0	0	0%	0%
<b>Total</b>	<b>3,581</b>	<b>12</b>	<b>28</b>	<b>14</b>	<b>42%</b>	<b>84%</b>
<b>R-squared</b>			<b>0.1306</b>	<b>0.1306</b>		

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SECTION III - DEMOGRAPHIC ASSUMPTIONS  
 DISABILITY RATES

Chart III-D1

ATU/IBEW - Disability Incidence (Males)

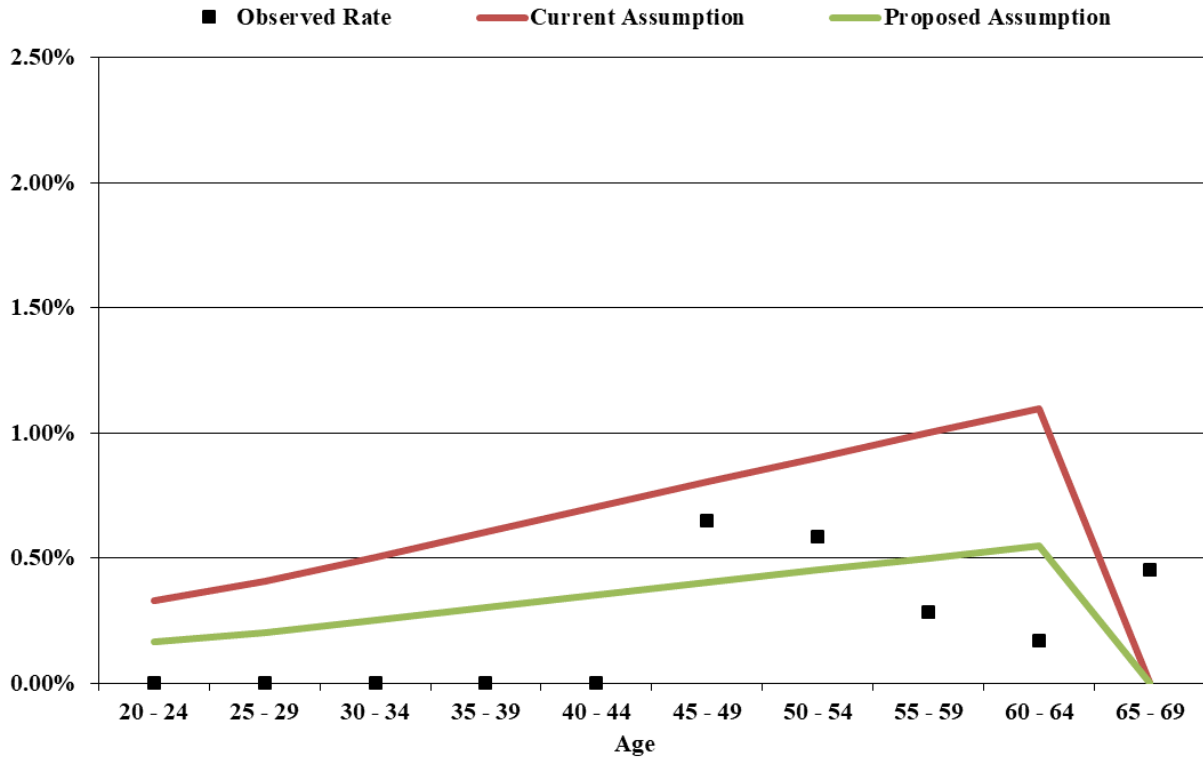


Table III-D2 shows the calculation of actual-to-expected ratios and the r-squared statistic for female ATU and IBEW members, and Chart III-D2 shows the information graphically. The data continues to show lower disability rates than expected. The proposed assumption decreases the assumed rates of disability by 50% and increases the aggregate A/E ratio from 43% to 86%. The r-squared is level at 0.23.

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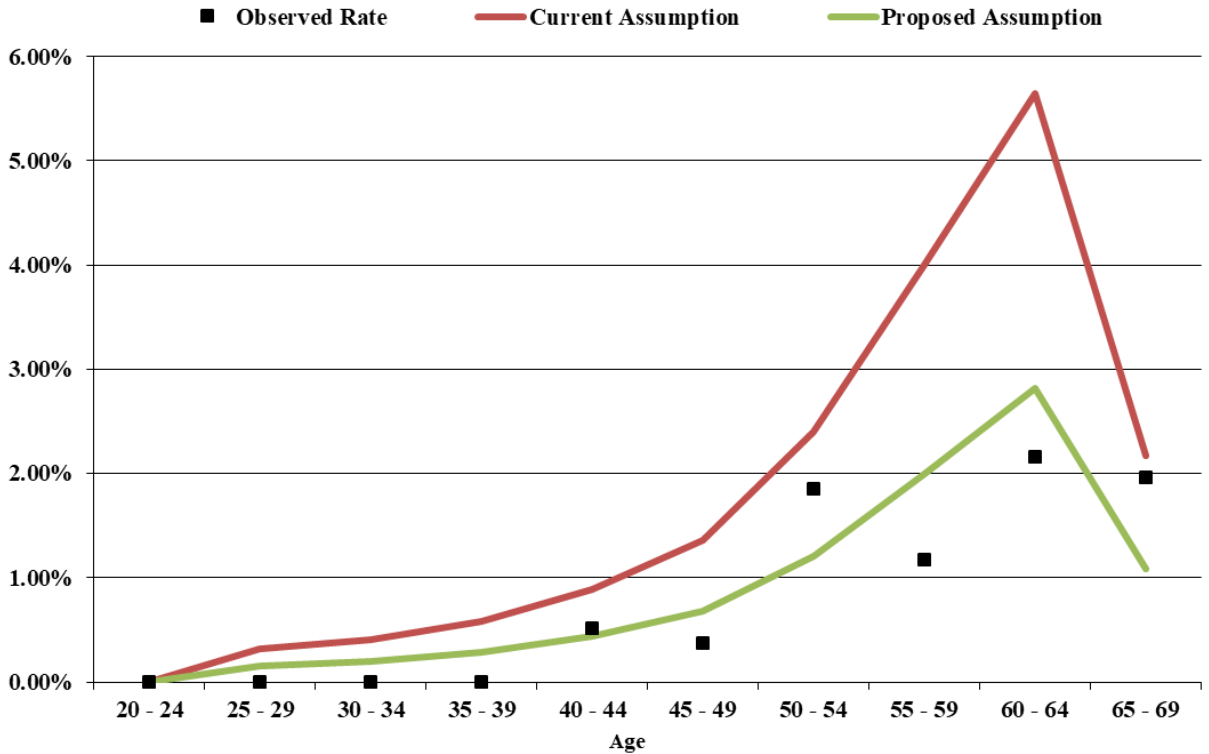
**SECTION III - DEMOGRAPHIC ASSUMPTIONS  
DISABILITY RATES**

**Table III-D2**

<b>ATU/IBEW - Disability Incidence Rates (Females)</b>						
<b>Age Band</b>	<b>Exposures</b>	<b>Disabilities</b>			<b>Actual to Expected Ratios</b>	
		<b>Actual</b>	<b>Current</b>	<b>Proposed</b>	<b>Current</b>	<b>Proposed</b>
20 - 24	1	0	0	0	0%	0%
25 - 29	44	0	0	0	0%	0%
30 - 34	101	0	0	0	0%	0%
35 - 39	138	0	1	0	0%	0%
40 - 44	196	1	2	1	58%	115%
45 - 49	268	1	4	2	27%	55%
50 - 54	270	5	6	3	77%	154%
55 - 59	256	3	10	5	29%	59%
60 - 64	139	3	8	4	38%	76%
65 - 69	51	1	1	1	90%	180%
<b>Total</b>	<b>1,466</b>	<b>14</b>	<b>32</b>	<b>16</b>	<b>43%</b>	<b>86%</b>
<b>R-squared</b>			<b>0.2287</b>	<b>0.2287</b>		

**Chart III-D2**

**ATU/IBEW - Disability Incidence (Females)**





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**SECTION III - DEMOGRAPHIC ASSUMPTIONS  
MORTALITY RATES**

Post-retirement mortality assumptions are typically developed separately by gender for both healthy annuitants and disabled annuitants. Pre-retirement mortality assumptions are developed separately for males and females. Unlike most of the other demographic assumptions that rely exclusively on the experience of the plan, for mortality, standard mortality tables and projection scales serve as the primary basis for the assumption.

Cheiron has recently undertaken a study of mortality for public sector transit plans, specifically for their ATU members, and we have developed a standard set of mortality tables based on this study. In addition, the Society of Actuaries recently completed an extensive mortality study and new sets of mortality tables for both the private and public sector. We have used a combination of these tables as the basis for our analysis.

The steps in our analysis are as follows:

1. Select a standard mortality table that is based on experience most closely matching the anticipated experience of SacRT.
2. Compare actual SacRT experience to what would have been predicted by the selected standard table for the period of the experience study.
3. Adjust the standard table either fully or partially depending on the level of credibility for SacRT experience. This adjusted table is called the base table.
4. Select an appropriate standard mortality improvement projection scale and apply it to the base table.

Mortality assumptions are developed separately for active employees, healthy annuitants, and disabled annuitants. Within each of these groups, mortality rates are developed separately for males and females. Unlike most of the other demographic assumptions that rely exclusively on the experience of the plan, for mortality, standard mortality tables are used with standard modifications so that the aggregate experience matches the plan's experience.

In general we propose assumption changes when the actual-to-expected (A/E) ratio for the current assumption is significantly different than 100%. However, for those groups that do not have sufficient experience, such as the SacRT active members, we may propose replacement tables based on the experience of the groups that have more credible data. We note that the pre-retirement mortality assumptions have very little impact on the liability estimates, because of the very low rates of decrement.

In the prior study, we proposed the following assumptions:

**Active members**

- RP-2014 Male and Female Employee mortality with generational improvements using Scale MP-2015 for ATU and IBEW members, adjusted by 115% for males and 130% for females.

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**SECTION III - DEMOGRAPHIC ASSUMPTIONS  
MORTALITY RATES**

- RP-2014 Combined Healthy Employee mortality with generational improvements using Scale MP-2015 for Salaried members, adjusted by 130% for females and no adjustment for males.

**Healthy retirees and beneficiaries**

- RP-2014 Combined Healthy Blue Collar mortality with generational improvements using Scale MP-2015 for ATU and IBEW members, adjusted by 115% for males and 130% for females.
- RP-2014 Combined Healthy Annuitant mortality with generational improvements using Scale MP-2015 for Salaried members, adjusted by 130% for females and no adjustment for males.

**Disabled members**

- RP-2014 Disabled Annuitant mortality for ATU and IBEW members, adjusted by 120% for males and no adjustment for females.
- RP-2014 Disabled Annuitant mortality for Salaried members, adjusted by 130% for males and 115% for females.

Since the prior study, the Society of Actuaries' Retirement Plans Experience Committee (RPEC) has continued to release annual updates of the mortality improvement scales, with the newest version – Scale MP-2020 - reflecting five additional years of data (2013-2018) than was used in the development of Scale MP-2015. As a result, it reflects lower expected improvement rates in the near term than Scale MP-2015, based on the lower levels of mortality improvement observed during the five most recent years in the data. It also reflects modifications to the long term (or ultimate) levels of expected improvement at various ages.

MP-2020, similar to MP-2015, represents the Society of Actuaries' most advanced actuarial methodology in incorporating mortality improvement trends with actual recent mortality rates, by using rates that vary not only by age but also by calendar year – known as a two-dimensional approach to projecting mortality improvements. Scale MP-2020 was designed with the intent of being applied to mortality on a generational basis. The effect of this is to build in an automatic expectation of future improvements in mortality. RPEC suggests that using generational mortality is a preferable approach, as it allows for an explicit declaration of the amount of future mortality improvement included in the assumptions.

RPEC has also recently released a two new sets of base mortality rate tables – the Pub-2010 and Pri-2012 Mortality Tables, which are based on a recent study of US defined benefit private and public plan mortality experience, respectively. We reviewed both of these sets of tables as potentially predictor of SacRT experience, as well as the proprietary ATU-specific mortality tables developed by Cheiron.

SacRT's ATU and IBEW experience over the past nine years matches fairly well with the new Cheiron ATU rates, with the exception of that of the active males, for whom we are proposing the Pri-2012 Blue Collar active member rates as the base table. For the healthy retired Salaried members and their beneficiaries, the Pri-2012 Bottom Quartile tables provided the best fit to the

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**SECTION III - DEMOGRAPHIC ASSUMPTIONS  
MORTALITY RATES**

data. Because of the extremely limited amount of mortality data for Salaried active and disabled members, we suggest no changes to these assumptions, other than updating the improvement assumption to Scale MP-2020.

Even with the use of nine years of data, the SacRT experience is only partially credible, based on standard statistical theory. We therefore propose partially adjusting the proposed base tables to fit SacRT's experience to develop a new base table. If appropriate, the rates for each age in the standard table have been adjusted by a factor, where the factor is determined by multiplying the actual-to-expected ratio for the group by a credibility factor which will bring the A/E results closer – but not all the way – to 100%.

Rather than weighting the experience based on the number of members living and dying, we have weighted the experience based on benefit size (and by compensation for active members). This approach has been recommended by RPEC, since members with larger benefits are expected to live longer, and a benefit-weighted approach helps avoid underestimating the liabilities.

Based on this information, we are proposing the following base mortality table assumptions:

**Active members**

- Pri-2012 Blue Collar Healthy Employee Headcount-weighted mortality rates for male ATU and IBEW members, and the Cheiron ATU Employee mortality rates adjusted by 105% for female ATU and IBEW members, with generational improvements using MP-2020 from the base year of the tables (2012 and 2016, respectively)
- RP-2014 Combined Healthy Employee mortality for Salaried members, adjusted by 130% for females and no adjustment for males, with generational improvements using MP-2020 from 2014

**Healthy retirees and beneficiaries**

- Cheiron ATU Healthy Annuitant mortality for ATU and IBEW members, adjusted by 95% for males and 105% for females, with generational improvements using Scale MP-2020 from 2016
- Pri-2012 Bottom Quartile Healthy Annuitant mortality for Salaried members, adjusted by 105% for females, with generational improvements using Scale MP-2020 from 2012

**Disabled members**

- Cheiron ATU Disabled Annuitant mortality for ATU and IBEW members, with no adjustment, with generational improvements using Scale MP-2020 from 2016
- RP-2014 Disabled Annuitant mortality for Salaried members, adjusted by 130% for males and 115% for females, with generational improvements using Scale MP-2020 from 2014

Table III-M1 on the next page shows a summary of the data over the past nine years, as well as our proposed mortality rates across all statuses compared to current rates.

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**SECTION III - DEMOGRAPHIC ASSUMPTIONS  
MORTALITY RATES**

**Table III-M1**

Mortality Analysis by Group								
Group	Exposures	Actual Deaths	Weighted Exposures	Weighted Deaths			A/E Ratios	
				Actual	Current	Proposed	Current	Proposed
<b>Active Members</b>								
ATU/IBEW Male	4,505	17	22,159,263	75,615	102,118	66,969	74%	113%
ATU/IBEW Female	1,873	4	8,293,928	16,669	15,082	16,247	111%	103%
Salaried Male	1,240	3	10,433,341	27,437	26,843	27,726	102%	99%
Salaried Female	917	2	6,266,871	13,992	10,524	10,817	133%	129%
<b>Healthy Annuitants and Beneficiaries</b>								
ATU/IBEW Male	3,134	75	86,463,805	1,677,369	2,058,024	1,878,011	82%	89%
ATU/IBEW Female	1,212	38	20,337,317	477,686	414,693	414,448	115%	115%
Salaried Male	1,301	27	33,590,084	829,513	542,530	746,698	153%	111%
Salaried Female	805	19	20,155,926	373,952	284,545	270,034	131%	138%
<b>Disabled Annuitant</b>								
ATU/IBEW Male	490	21	8,634,299	350,864	390,692	352,223	90%	100%
ATU/IBEW Female	329	9	5,917,155	134,659	138,159	150,041	97%	90%
Salaried Male	34	3	1,166,959	108,234	52,650	53,924	206%	201%
Salaried Female	0	0	0	0	0	N/A	N/A	N/A
<b>All Annuitants</b>								
	7,305	192	176,265,546	3,952,277	3,881,291	3,865,379	102%	102%

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**SECTION III - DEMOGRAPHIC ASSUMPTIONS  
OTHER DEMOGRAPHIC ASSUMPTIONS**

**TERMINAL PAY LOAD**

The current assumptions increase the liability for retirement benefits for ATU and IBEW active participants by 5.0% and by 7.0% for Salaried members to account for the impact of unused vacation and sick leave or other terminal earnings or compensation received at the very end of a member's career that would increase the member's calculated Final Average Compensation above the level that would be expected based on regular wage and merit/longevity increases.

We reviewed the ATU and IBEW service retirement calculations from the past five years and found that the actual final average pay exceeded the level expected based on our valuation compensation by about 8.8%, calculated on a service-weighted basis. When combined with the 5.7% average excess we calculated as part of the prior experience study, we believe it would be reasonable to apply the same 7.0% assumption used for the Salaried members to the ATU and IBEW members. Our review of the retirement calculations for the Salaried members showed an excess of around 8%. Given the limited amount of data, we believe the 7% assumption is still reasonable and no change to the assumption is necessary.

**PLAN ADMINISTRATIVE EXPENSES**

Administrative expense allowances of approximately \$327,000 for ATU, \$140,000 for IBEW and \$325,000 for Salaried are currently assumed for FY2020-2021 based on the prior year expense assumptions, increased by the assumed rate of inflation.

We have reviewed the actual administrative expenses allocated to each group for the past four years (prior to that period, ATU and IBEW expenses were combined). Table III-O1 shows the results of this review, with the expenses prior to FY2019-2020 indexed to that year using the CPI-U as of June (as published by the BLS), and the expenses for FY2020-2021 projected using an assumed rate of inflation at 2.5% and then rounded. The proposed assumptions would be the same with the alternative assumed rate of inflation of 2.75%.

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**SECTION III - DEMOGRAPHIC ASSUMPTIONS  
OTHER DEMOGRAPHIC ASSUMPTIONS**

**Table III-O1**

<b>Administrative Expense Analysis (indexed to FYE 2020, based on CPI-U)</b>				
<b>Year</b>	<b>ATU</b>	<b>IBEW</b>	<b>Salaried</b>	<b>Total</b>
FYE 2017	\$ 324,761	\$ 253,368	\$ 305,972	\$ 884,100
FYE 2018	267,326	232,108	254,033	753,467
FYE 2019	281,767	231,833	263,009	776,609
FYE 2020	243,847	218,135	226,310	688,292
Average	\$ 279,425	\$ 233,861	\$ 262,331	\$ 775,617
Plus inflation to FYE 2021	<b>\$ 285,000</b>	<b>\$ 240,000</b>	<b>\$ 270,000</b>	<b>\$ 795,000</b>
Current assumption	\$ 327,000	\$ 140,000	\$ 325,000	\$ 792,000

We suggest changing the Plan’s assumed administrative expenses to match the amounts proposed in the table (highlighted in bold), increasing in future years at the assumed rate of inflation. These assumptions represent very little overall change in the expense assumption for RT, with a reallocation from the ATU and Salaried plans to IBEW, in line with how the actual expenses have been allocated in recent years. These expected expense amounts are added to the normal cost and unfunded liability payment to determine the total actuarial contribution amount charged to the RT.

**FAMILY COMPOSITION**

The current assumption is that 85% of active SacRT active participants have beneficiaries eligible for pre-retirement death benefits and that males are three years older than their spouses and females are three years younger than their spouses. This is consistent with the assumptions used by CalPERS and is similar to that used by other systems. Since we have limited spouse data, we suggest continuing the use of the same assumptions, for both pre-retirement deaths and for valuing survivor benefits for current retirees with missing spouse dates of birth.

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**APPENDIX A - SUMMARY OF PROPOSED ASSUMPTIONS**

The proposed demographic and economic assumptions will be presented to the Boards at their May 5, 2021 meeting. The demographic assumptions are based on an experience study covering the period from July 1, 2015 through June 30, 2020, and in many cases, have been combined with the experience from the prior period (July 1, 2011 through June 30, 2015).

**1. Rate of Return**

The proposed annual rate of return on all Plan assets is assumed to be 6.75%, net of investment expenses. An alternative return of 7.00% would also be reasonable.

**2. Cost-of-Living**

The cost-of-living as measured by the Consumer Price Index (CPI) will increase at the rate of 2.50% per year. An alternative assumption of 2.75% would also be reasonable.

**3. Plan Expenses**

Administrative expenses are assumed to be as follows for the next year:

	ATU	IBEW	Salaried
FYE 2021	\$ 285,000	\$240,000	\$270,000

Administrative expenses are assumed to increase by the rate of inflation each year.

**4. Increases in Pay**

Wage inflation component: 2.75% per year, based on 2.50% inflation (or 3.00% per year, based on 2.75% inflation)

Additional longevity and merit component:

Service	ATU	IBEW	Salaried
0	13.00%	13.00%	2.50%
1	13.00%	11.00%	2.50%
2	13.00%	5.00%	2.50%
3	11.00%	2.50%	2.50%
4	5.00%	1.50%	2.50%
5	2.00%	1.50%	2.50%
6	2.00%	1.50%	2.50%
7	2.00%	0.75%	2.50%
8	2.00%	0.75%	2.50%
9	2.00%	0.75%	2.50%
10+	0.50%	0.75%	2.50%

**5. Increases in Pensionable Payroll / Amortization Payments**

Overall pensionable compensation (used in the calculation of amortization payments) is expected to grow by 2.75% per year if inflation is 2.50% (or 3.00% per year, based on 2.75% inflation)

**APPENDIX A - SUMMARY OF PROPOSED ASSUMPTIONS**

**6. Mortality Improvement**

Mortality is assumed to improve in future years in accordance with the MP-2020 generational improvement scale, and is applied from the base year of each of the mortality tables listed below

**7. Active Participant Mortality**

Rates of mortality for the ATU/IBEW active male Participants are given by the Private Retirement (Pri) 2012 Amount-Weighted Tables for Healthy Employees with Blue Collar Adjustments published by the Society of Actuaries with generational improvements from a base year of 2012. Rates of mortality for the ATU/IBEW active female Participants are given by the Amalgamated Transit Union (ATU) 2016 Tables for Healthy Employees published by Cheiron increased by 5%, with generational improvements from a base year of 2016.

Rates of mortality for the Salaried active Participants are given by the Retired Pensioners (RP) 2014 Amount-Weighted Tables for Healthy Employees without collar adjustments published by the Society of Actuaries with generational improvements from a base year of 2014, with no adjustments for male members and a 30% increase in mortality for female members.

**8. Retired Participant Mortality**

Rates of mortality for the ATU/IBEW retired Participants, spouses and surviving spouses are given by the Amalgamated Transit Union (ATU) 2016 Tables for Healthy Annuitants established by Cheiron, decreased by 5% for male members and increased by 5% for female members, with generational improvements from a base year of 2016.

Rates of mortality for the Salaried retired Participants, spouses and surviving spouses are given by the Private Retirement (Pri) 2012 Bottom Quartile Amount-Weighted Tables for Healthy Annuitants published by the Society of Actuaries, increased by 5% for female members, with generational improvements from a base year of 2012.

**9. Disabled Participant Mortality**

Rates of mortality for ATU/IBEW disabled Participants are given by the Amalgamated Transit Union (ATU) 2016 Tables for Disabled Annuitants established by Cheiron, with generational improvements from a base year of 2016.

Rates of mortality for Salaried disabled Participants are given by the Retired Pensioners (RP) 2014 Amount-Weighted Tables for Disabled Annuitants published by the Society of Actuaries, increased by 30% for male members and by 15% for female members, with generational improvements from a base year of 2014.



**RETIREMENT PLANS FOR EMPLOYEES OF SACRAMENTO REGIONAL TRANSIT DISTRICT  
ACTUARIAL EXPERIENCE STUDY AS OF JUNE 30, 2020**

**APPENDIX A - SUMMARY OF PROPOSED ASSUMPTIONS**

**10. Family Composition**

85% of participants are assumed to have beneficiaries eligible for pre-retirement death benefits. For active Participants and current retirees without spouse information, male spouses are assumed to be three years older than their spouses.

**11. Terminal Payments**

Average Final Monthly Earnings are assumed to be increased by 7% for ATU, IBEW and Salaried non-PEPRA participants due to the application of payments for unused vacation and sick leave and other terminal earnings.

**12. Service Retirement**

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

Age	ATU			IBEW				Salaried				
	Years of Service			Years of Service				Years of Service				
	10-24	25-29	30+	5-9	10-24	25-29	30+	5-9	10-19	20-24	25-29	30+
Under 55	0.0%	9.6%	9.6%	0.0%	0.0%	2.0%	2.0%	0.0%	0.0%	0.0%	10.0%	15.0%
55	7.2%	9.6%	9.6%	2.3%	2.3%	2.3%	10.0%	5.0%	5.0%	10.0%	10.0%	15.0%
56-59	5.0%	9.6%	9.6%	2.3%	2.3%	2.3%	10.0%	5.0%	5.0%	10.0%	10.0%	15.0%
60	5.0%	9.6%	9.6%	4.0%	11.7%	11.7%	20.0%	15.0%	15.0%	20.0%	25.0%	35.0%
61	5.0%	9.6%	9.6%	4.0%	11.7%	11.7%	20.0%	8.3%	15.0%	20.0%	25.0%	35.0%
62-64	20.0%	20.8%	20.8%	4.0%	11.7%	11.7%	20.0%	8.3%	15.0%	20.0%	25.0%	35.0%
65	30.0%	30.0%	30.0%	4.0%	32.0%	32.0%	32.0%	25.0%	25.0%	20.0%	35.0%	35.0%
66-69	25.0%	25.0%	25.0%	4.0%	25.0%	25.0%	32.0%	25.0%	25.0%	20.0%	35.0%	35.0%
70+	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

PEPRA members are assumed to begin retiring at age 52, with at least five years of service.

**13. Termination**

Rates of termination for all Participants from causes other than death, disability, and service retirement are as follows:

Service	ATU	IBEW	Salaried
0-4	10.00%	8.00%	10.00%
5-9	4.00%	5.00%	5.00%
10-14	3.00%	3.00%	3.00%
15-19	3.00%	2.00%	3.00%
20+	1.00%	0.50%	1.50%

\* No terminations are assumed to occur after eligibility for retirement or after 25 years of service.

**RETIREMENT PLANS FOR EMPLOYEES OF SACRAMENTO REGIONAL TRANSIT DISTRICT  
ACTUARIAL EXPERIENCE STUDY AS OF JUNE 30, 2020**

**APPENDIX A - SUMMARY OF PROPOSED ASSUMPTIONS**

**14. Disability**

Rates of disability are based on the age and sex of the Participants. Sample rates are shown below:

Age	ATU/IBEW		Salaried	
	Male	Female	Male	Female
22	0.15%	0.00%	0.00%	0.00%
27	0.20%	0.15%	0.00%	0.00%
32	0.25%	0.20%	0.00%	0.00%
37	0.30%	0.28%	0.00%	0.00%
42	0.35%	0.43%	0.00%	0.00%
47	0.40%	0.67%	0.00%	0.00%
52	0.45%	1.18%	0.00%	0.00%
57	0.50%	2.04%	0.00%	0.00%
62	0.55%	2.87%	0.00%	0.00%

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

**RETIREMENT PLANS FOR EMPLOYEES OF SACRAMENTO REGIONAL TRANSIT DISTRICT  
ACTUARIAL EXPERIENCE STUDY AS OF JUNE 30, 2020**

**APPENDIX B - SUMMARY OF PRIOR ASSUMPTIONS**

**1. Rate of Return**

The annual rate of return on all Plan assets is assumed to be 7.25% net of investment expenses.

**2. Cost-of-Living**

The cost-of-living as measured by the Consumer Price Index (CPI) will increase at the rate of 3.00% per year.

**3. Plan Expenses**

Administrative expenses are assumed to be as follows for the next year:

	ATU	IBEW	Salaried
FYE 2021	\$ 327,000	\$ 140,000	\$ 270,000

Administrative expenses are assumed to increase by the rate of inflation each year.

**4. Increases in Pay**

Wage inflation component: 3.00% per year

Additional longevity and merit component:

Service	ATU	IBEW	Salaried	
			AEA/MCEG	AFSME
0	6.00%	5.00%	3.25%	2.00%
1	6.00%	5.00%	3.25%	2.00%
2	6.00%	5.00%	3.25%	2.00%
3	6.00%	5.00%	3.25%	2.00%
4	6.00%	5.00%	3.25%	2.00%
5	6.00%	5.00%	3.25%	2.00%
6	6.00%	0.25%	3.25%	2.00%
7	6.00%	0.25%	3.25%	2.00%
8	6.00%	0.25%	3.25%	2.00%
9	6.00%	0.25%	3.25%	2.00%
10-19	0.50%	0.25%	0.50%	2.00%
20+	0.50%	0.25%	0.50%	0.00%

**5. Increases in Pensionable Payroll / Amortization Payments**

Overall pensionable compensation (used in the calculation of amortization payments) is expected to grow by 3.00% per year

**APPENDIX B - SUMMARY OF PRIOR ASSUMPTIONS**

**6. Mortality Improvement**

Mortality is assumed to improve in future years in accordance with the MP-2015 generational improvement tables scale and is applied from the base year of each of the mortality tables listed below.

**7. Active Participant Mortality**

Rates of mortality for the ATU/IBEW active Participants are given by the Retired Pensioners (RP) 2014 Male and Female Employee Tables published by the Society of Actuaries with generational improvements using Scale MP-2015, with a 15% increase in mortality for male members and a 30% increase in mortality for female members.

Rates of mortality for the Salaried active Participants are given by the Retired Pensioners (RP) 2014 Tables for Healthy Employees without collar adjustments published by the Society of Actuaries with generational improvements using Scale MP-2015, with no adjustments for male members and a 30% increase in mortality for female members.

**8. Retired Participant Mortality**

Rates of mortality for the ATU/IBEW retired Participants, spouses and surviving spouses are given by the Retired Pensioners (RP) 2014 Tables for Healthy Annuitants with Blue Collar Adjustments published by the Society of Actuaries with generational improvements using Scale MP-2015, with a 15% increase in mortality for male members and a 30% increase in mortality for female members.

Rates of mortality for the Salaried retired Participants, spouses and surviving spouses are given by the Retired Pensioners (RP) 2014 Tables for Healthy Annuitants without collar adjustments published by the Society of Actuaries with generational improvements using Scale MP-2015, with no adjustments for male members and a 30% increase in mortality for female members.

**9. Disabled Participant Mortality**

Rates of mortality for ATU/IBEW disabled Participants are given by the Retired Pensioners (RP) 2014 Tables for Disabled Annuitants published by the Society of Actuaries with generational improvements using Scale MP-2015, with a 20% increase in mortality for male members and no adjustment for female members.

Rates of mortality for Salaried disabled Participants are given by the Retired Pensioners (RP) 2014 Tables for Disabled Annuitants published by the Society of Actuaries with generational improvements using Scale MP-2015, with a 30% increase in mortality for male members and a 15% increase in mortality for female members.

**RETIREMENT PLANS FOR EMPLOYEES OF SACRAMENTO REGIONAL TRANSIT DISTRICT  
ACTUARIAL EXPERIENCE STUDY AS OF JUNE 30, 2020**

**APPENDIX B - SUMMARY OF PRIOR ASSUMPTIONS**

**10. Family Composition**

85% of participants are assumed to have beneficiaries eligible for pre-retirement death benefits. For active Participants and current retirees without spouse information, male spouses are assumed to be three years older than their spouses.

**11. Terminal Payments**

Average Final Monthly Earnings are assumed to be increased by 5% for ATU/IBEW Non-PEPRA Participants and 7% for Salaried Non-PEPRA Participants due to the application of payments for unused vacation and sick leave and other terminal earnings.

**12. Service Retirement**

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

Age	ATU			IBEW				Salaried				
	Years of Service			Years of Service				Years of Service				
	10-24	25-29	30+	5-9	10-24	25-29	30+	5-9	10-19	20-24	25-29	30+
Under 55	0.0%	9.6%	9.6%	0.0%	0.0%	2.0%	2.0%	0.00%	0.00%	0.00%	5.00%	25.00%
55	7.2%	9.6%	9.6%	2.3%	2.3%	2.3%	10.0%	5.00%	5.00%	5.00%	5.00%	25.00%
56-59	5.0%	9.6%	9.6%	2.3%	2.3%	2.3%	10.0%	5.00%	5.00%	5.00%	5.00%	25.00%
60	5.0%	9.6%	9.6%	4.0%	11.7%	11.7%	20.0%	15.00%	15.00%	15.00%	15.00%	15.00%
61	5.0%	9.6%	9.6%	4.0%	11.7%	11.7%	20.0%	8.25%	8.25%	8.25%	8.25%	8.30%
62-64	20.0%	20.8%	20.8%	4.0%	11.7%	11.7%	20.0%	8.25%	8.25%	8.25%	8.25%	8.30%
65	30.0%	30.0%	30.0%	4.0%	32.0%	32.0%	32.0%	25.00%	25.00%	25.00%	25.00%	25.00%
66-69	25.0%	25.0%	25.0%	4.0%	25.0%	25.0%	32.0%	25.00%	25.00%	25.00%	25.00%	25.00%
70+	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

**RETIREMENT PLANS FOR EMPLOYEES OF SACRAMENTO REGIONAL TRANSIT DISTRICT  
ACTUARIAL EXPERIENCE STUDY AS OF JUNE 30, 2020**

**APPENDIX B - SUMMARY OF PRIOR ASSUMPTIONS**

**13. Termination**

Rates of termination for all ATU and IBEW Participants from causes other than death, disability, and service retirement are as follows:

Service	ATU	IBEW
0	9.00%	8.00%
1-3	5.00%	8.00%
4	3.00%	8.00%
5-9	3.00%	5.00%
10-14	25.00%	2.75%
15-19	25.00%	0.50%
20+	0.50%	0.50%

\* No terminations are assumed to occur after eligibility for retirement or after 25 years of service.

Rates of termination for all Salaried Participants from causes other than death, disability, and service retirement are as follows:

Salaried		
Age	Years of Service	
	0-4	5+
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.

RETIREMENT PLANS FOR EMPLOYEES OF SACRAMENTO REGIONAL TRANSIT DISTRICT  
ACTUARIAL EXPERIENCE STUDY AS OF JUNE 30, 2020

APPENDIX B - SUMMARY OF PRIOR ASSUMPTIONS

14. Disability

Rates of disability are based on the age and sex of the Participants. Sample rates are shown below:

Age	ATU/IBEW		Salaried	
	Male	Female	Male	Female
22	0.30%	0.00%	0.02%	0.02%
27	0.40%	0.30%	0.02%	0.02%
32	0.50%	0.39%	0.03%	0.03%
37	0.60%	0.56%	0.04%	0.04%
42	0.70%	0.86%	0.05%	0.05%
47	0.80%	1.34%	0.08%	0.08%
52	0.90%	2.35%	0.14%	0.14%
57	1.00%	4.09%	0.26%	0.26%
62	1.10%	5.75%	0.54%	0.54%

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



*Classic Values, Innovative Advice*





# RETIREMENT BOARD STAFF REPORT

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**DATE:** May 10, 2021 Agenda Item: 2  
**TO:** Sacramento Regional Transit Retirement Board – IBEW  
**FROM:** John Gobel, Manager, Pension and Retirement Services  
**SUBJ:** Accept Actuarial Valuation and Approve the Actuarially Determined Contribution Rates

## **RECOMMENDATION**

Adopt the attached Resolution(s)

## **RESULT OF RECOMMENDED ACTION**

Accept the Actuarial Valuation and Approve the Actuarially Determined Contribution Rates for Fiscal Year 2022.

## **FISCAL IMPACT**

The fiscal year impact of the Actuarial Valuation is determined by applying Actuarially Determined Contribution (ADC) Rates to annual payroll estimates. Since these rates cannot be finalized until the Retirement Board considers the Actuarial Experience Study prepared by the actuary and adopts certain economic and demographic assumptions, Staff is providing cost estimates for two different contribution scenarios:

Economic Assumption	6.75% Discount Rate	7.00% Discount Rate
Blended Rate for ADC	28.62%	29.46%
District Contribution	\$4,302,571	\$4,428,851

## **DISCUSSION**

Following discussion by all five of the Retirement Boards at the Special Meeting of the Retirement Boards on May 5, 2021, IBEW Retirement Board action on this item was continued to this May 10 Special Meeting.

At the May 5, 2021 meeting, the other four Sacramento Regional Transit District Retirement Boards adopted the actuarial valuation predicated on the 6.75% discount rate (referred to as "Option 1"). As the Pension Funds are pooled for investment and related purposes, Staff proposes that the IBEW Retirement Board take the same action.

## Background

At the March 10, 2021 meeting of the Retirement Boards, the consulting actuary for the ATU, IBEW and Salaried Employee Retirement Plans, Graham Schmidt of Cheiron, presented information regarding the experience study in progress for the five-year cycle from July 1, 2015 through June 30, 2020. Because the study was not complete and because the alternative proposed assumption changes under discussion would still need to be incorporated into actuarial valuations, the Retirement Boards agreed to consider two Options at their next meeting.

## Alternative Actuarial Valuations Attached

The first attached actuarial valuation uses the proposed assumption changes under Option 1, including a 6.75% discount rate, amortization of the unfunded liability associated with assumption changes over a 20-year period, and phase-in the employer costs of new economic assumptions over three years.

The second attached actuarial valuation uses the proposed assumption changes under Option 2, including a 7.00% discount rate and amortization of the unfunded liability associated with assumption changes over a 20-year period, with no three-year phase-in.

Ultimately, the actuarial valuation and the contribution rates approved by the Retirement Board(s) for each Plan must reflect the economic and demographic assumptions accepted for the experience study.

## Assessment of Funding

Under the valuation that applies a reduction of the discount rate from 7.25% to 7.00%, the funded ratio of the IBEW Plan decreases from 75.5% as of July 1, 2019 to 71.1% as of July 1, 2020. [See Executive Summary, which begins on page 2.] The decreased funded ratio reflects an increase in the plan's unfunded actuarial liability ("UAL") from \$19,786,977 to \$25,659,271 as of July 1, 2020. The majority of the increase (\$4,736,171) is ascribed to assumption changes adopted with the experience study.

Under the valuation that considers a reduction of the discount rate from 7.25% to 6.75%, the funded ratio of the IBEW Plan decreases from 75.5% as of July 1, 2019 to 69.5% as of July 1, 2020. [See Executive Summary, which begins on page 2.] The decreased funded ratio reflects an increase in the plan's UAL from \$19,786,977 to \$27,652,921 as of July 1, 2020. The majority of the increase (\$6,729,821) is ascribed to assumption changes adopted with the experience study.

## Recognition of Changes

Within the valuation that applies a reduction of the discount rate to 7.00%, Cheiron proposes a change in the Plan's funding policy, which amortizes the UAL associated with the current valuation and assumption changes over a 20-year period. This change and its impact on the Plan's average or "blended" contribution rate is noted in the Executive Summary and further explained in Appendix B (the Statement of Actuarial Assumptions and Methods):

- The [blended] actuarially determined employer contribution rate increased from 26.66% of payroll last year to 29.46% of payroll for the current valuation. [p. 2]
- The actuarially determined contribution is based on the proposed amortization funding policy to use 20-year layered amortization as a level percentage of payroll for changes in the UAL occurring after July 1, 2019. No change was made to the payment schedule for the existing UAL as of July 1, 2019, which has 12 years remaining as of the current valuation. [pp. 2-3]
- The amortization period as of July 1, 2020 is 12 years for the UAL determined as of July 1, 2019. This valuation reflects a change to 20-year layered amortization for UAL changes after 2019, including 20-year schedules for the assumptions incorporated as part of the 2020 experience study and the 2020 Actuarial Gain/(Loss). Future changes in the UAL will also be amortized over closed 20-year schedules. [p. 38]

Within the valuation that applies a reduction of the discount rate to 6.75%, Cheiron proposes a change in the Plan's funding policy, which amortizes the UAL associated with the current valuation and assumption changes over a 20-year period. In addition, Cheiron references a three-year phase-in of employer costs associated with the assumption changes, which is limited to the adoption of a 6.75% discount rate. These changes and their impact on the Plan's average or "blended" contribution rate are noted in the Executive Summary and further explained in Appendix B (the Statement of Actuarial Assumptions and Methods):

- The Board is considering a phase in the amortization payment on the UAL resulting from the adopted assumption changes over a three-year period. The phase in would decrease the [blended] contribution rate in the first year by 2.05%, from 30.67% to 28.62%. [p. 6]
- The actuarially determined contribution is based on the proposed amortization funding policy to use 20-year layered amortization as a level percentage of payroll, for changes in the UAL occurring after July 1, 2019. No change was made to the payment schedule for the existing UAL as of July 1, 2019, which has 12 years remaining as of the current valuation. [p. 3]

- This valuation reflects a change to 20-year layered amortization for UAL changes after 2019, including 20-year schedules for the assumptions incorporated as part of the 2020 experience study and the 2020 Actuarial Gain/(Loss). Future changes in the UAL will also be amortized over closed 20-year schedules.

Additionally, the Board is considering a three-year phase in of the amortization payment for the increase in the UAL due to the 2020 experience study changes. [p. 38]

### Development of Contribution Rates

Option 1: The valuation that considers a reduction of the discount rate to 6.75% provides discrete contribution rates for Classic members who entered the plan prior to January 1, 2015 and PEPRA members who entered the plan thereafter. These rates are detailed in the Contributions section [see Table V-3b] and reported below:

#### Classic Members

Employer Contribution Rate	32.36%
Member Contribution Rate	N/A

#### PEPRA Members

Employer Contribution Rate	23.75%
Member Contribution Rate	7.00%

Option 2: The valuation that considers a reduction of the discount rate to 7.00% provides discrete contribution rates for Classic members who entered the plan prior to January 1, 2015 and PEPRA members who entered the plan thereafter. These rates are detailed in the Contributions section [see Table V-3] and reported below:

#### Classic Members

Employer Contribution Rate	33.07%
Member Contribution Rate	N/A

#### PEPRA Members

Employer Contribution Rate	24.78%
Member Contribution Rate	6.75%

### Action

The Retirement Board must accept an actuarial valuation that reflects the Plan's economic and demographic assumptions adopted in Agenda Item 1. As explained in this Staff Report, the key distinction between the two reports prepared by Cheiron is the presentation of different economic assumptions with different rates of return or discount rates.

The Retirement Board must accept the actuarial valuation that corresponds with the chosen discount rate by taking one of the following actions:

A. RECOMMENDED ACTION *(Proposed for consistency with other Retirement Boards)*

Accept the Actuarial Valuation Report of July 1, 2020 that considers a 6.75% discount and adopt the corresponding contribution rates for Classic and PEPRA members of the Retirement Plan Between International Brotherhood of Electrical Workers Local Union 1245, AFL-CIO and Sacramento Regional Transit.

OR

B. ALTERNATE ACTION

Accept the Actuarial Valuation Report of July 1, 2020 that considers a 7.00% discount and adopt the corresponding contribution rates for Classic and PEPRA members of the Retirement Plan Between International Brotherhood of Electrical Workers Local Union 1245, AFL-CIO and Sacramento Regional Transit District.

Administration of the various Sacramento Regional Transit District Pension Plans requires consistency for purposes of actuarial assumptions as the Plans' funds are pooled for investment and related purposes. Accordingly, staff requests that the IBEW Retirement Board select the staff recommendation.

**RESOLUTION NO. 21 - \_\_\_\_\_**

**SACRAMENTO REGIONAL TRANSIT RETIREMENT BOARD RESOLUTION**

Adopted by the Board of Directors for the Retirement Plan for the Sacramento Regional Transit District Employees who are Members of the **IBEW** on this date:

**May 10, 2021**

**Accept Actuarial Valuation and Approve the Actuarially Determined Contribution Rates**

NOW, THEREFORE, BE IT HEREBY RESOLVED BY THE RETIREMENT BOARD OF DIRECTORS OF THE SACRAMENTO REGIONAL TRANSIT DISTRICT FOR EMPLOYEES WHO ARE MEMBERS OF THE IBEW LOCAL UNION AS FOLLOWS:

THAT the Retirement Board hereby accepts the Actuarial Valuation Report as of July 1, 2020 for the Retirement Plan for Regional Transit Employees who are Members of IBEW, which is attached as Exhibit A.

THAT the Retirement Board hereby approves the Actuarially Determined Contribution Rates for the Retirement Plan for Regional Transit Employees who are Members of the Retirement Plan Between International Brotherhood of Electrical Workers Local Union 1245, AFL-CIO and Sacramento Regional Transit District, which are effective July 1, 2021 and established in Exhibit A. For reference these contribution rates are also reviewed below:

Classic Members

Employer Contribution Rate	32.36%
Member Contribution Rate	N/A

PEPRA Members

Employer Contribution Rate	23.75%
Member Contribution Rate	7.00%

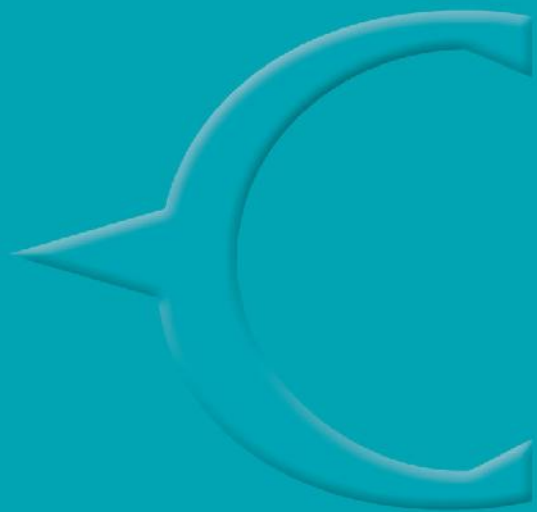
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Constance Bibbs, Chair

ATTEST: Henry Li, Secretary

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By: John Gobel, Assistant Secretary



**Retirement Plan for  
Sacramento Regional  
Transit District Employees  
IBEW Local 1245**

**Actuarial Valuation Report  
as of July 1, 2020**

**Produced by Cheiron**

**April 2021**

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April 29, 2021

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

Dear Members of the Board:

At your request, we have conducted an actuarial valuation of the Retirement Plan for Sacramento Regional Transit District Employees (IBEW Plan) (SacRT, the Fund, the Plan) as of July 1, 2020. 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 Board and the auditors in preparing financial reports in accordance with applicable law and accounting requirements.

This report was prepared solely for the Retirement Board 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 other user.

This report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices and our understanding of the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board as well as applicable laws and regulations. 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



Graham A. Schmidt, ASA, FCA, MAAA, EA  
Consulting Actuary



Anne D. Harper, FSA, MAAA, EA  
Principal Consulting Actuary

**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES: IBEW  
PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**FOREWORD**

Cheiron has performed the actuarial valuation of the Retirement Plan for Sacramento Regional Transit District Employees (IBEW Plan) as of July 1, 2020. 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.
- In Section II, **Disclosures Related to Risk**, we review the primary risks facing the District, and quantify these using various risk and maturity measures.
- The **Main Body** of the report presents details on the Plan’s
  - Section III – Assets
  - Section IV – Liabilities
  - Section V – 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.

**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**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,
- Employer and member contribution rates for Plan Year 2021-2022, and
- An assessment and disclosure of key risks.

Prior to July 1, 2016, a combined valuation report was issued for the Retirement Plans for Sacramento Regional Transit District Employees ATU Local 256 and IBEW Local 1245. As per the Board's direction, beginning with the July 1, 2016 valuation, separate reports are issued for the ATU and IBEW plans.

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, 2020 provided to the Board in September 2020.

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) changes in Plan cost, (D) an examination of the historical trends, and (E) the projected financial outlook for the Plan.

**A. Valuation Basis**

This valuation determines the employer and PEPRA member contributions for the plan year.

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

- The normal cost under the Entry Age Normal Cost Method, net of any contributions by the members,
- 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 in assumptions based on the experience study completed April 2021. Additionally, there has been a proposed change in the amortization funding policy as presented at the March 10, 2021 Board meeting.

## SECTION I – EXECUTIVE SUMMARY

### B. Key Findings of this Valuation

The key results of the July 1, 2020 actuarial valuation are as follows:

- The actuarially determined employer contribution rate increased from 26.66% of payroll last year to 28.62% of payroll for the current valuation, reflecting a three-year phase in of the amortization payment for the increase in the Unfunded Actuarial Liability (UAL) due to the updated assumptions adopted for the July 1, 2020 valuation. Without the phase in, the employer contribution rate would be 30.67% of payroll.
- The Plan's funded ratio, the ratio of actuarial assets over Actuarial Liability, decreased from 75.5% as of July 1, 2019 to 69.5% as of July 1, 2020. As a point of comparison, a funding ratio of 61.6% or more is required just to fund the liabilities of the inactive members: retired, disabled, terminated with vested benefits, and their beneficiaries. This ratio 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 \$19,786,977 to \$27,652,921 as of July 1, 2020. This increase in the UAL was primarily due to the assumption changes adopted based on the experience study and losses on the Actuarial Value of Assets.
- During the year ended June 30, 2020, the return on Plan assets was 1.81% on a market value basis net of investment expenses, as compared to the 7.25% assumption. This resulted in a market value loss on investments of \$3,247,784. The Actuarial Value of Assets recognizes 20% of the annual difference between the expected and actual return on the Market Value of Assets (MVA). This method of smoothing the asset gains and losses returned 4.93% on the smoothed value of assets, an actuarial asset loss of \$1,405,467.
- The Actuarial Value of Assets is currently 104.6% of the market value. Since actuarial assets are above market assets, there are unrecognized investment losses (approximately \$2.8 million, primarily due to the FYE 2020 asset experience) that will be reflected in the smoothed value in future years.
- The Plan experienced a liability gain of \$8,970 with gains and losses on the experience offsetting each other. The Plan experienced a \$85,054 loss from expenses being more than expected, and a loss of \$277,022 from contributions being less than expected. Combining the gain on liabilities with losses on assets, expenses and contributions the Plan experienced a total loss of \$1,758,572.
- The Plan experienced an increase in the liabilities because of assumption changes proposed as part of the experience study (\$6,729,821). The assumption changes with the biggest impact were changes in the discount rate (lowering it from 7.25% to 6.75%), followed by those affecting the salary scale and load on terminal payments.

**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**SECTION I – EXECUTIVE SUMMARY**

- The actuarially determined contribution is based on the proposed amortization funding policy to use 20-year layered amortization as a level percentage of payroll, for changes in the UAL occurring after July 1, 2019. No change was made to the payment schedule for the existing UAL as of July 1, 2019, which has 12 years remaining as of the current valuation.
- There were 38 new hires and rehires since July 1, 2019 and the total active population increased by 14. Total projected payroll increased 10.99% from \$13,735,701 to \$15,245,596 for 2020-2021.
- The impact of PEPRA continued to lower the employer cost. As more PEPRA members are hired, the average normal cost rate declines, because PEPRA members have lower benefits than the non-PEPRA members do. In addition, the PEPRA member contribution rate increased this year (from 6.00% to 7.00%), due to the proposed assumption changes and reduction in the discount rate.

**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**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.

<b>Table I-1</b>				
<b>Summary of Principal Plan Results</b>				
<b>Valuation Date</b>	<b>July 1, 2019</b>	<b>July 1, 2020</b>	<b>% Change</b>	
<b><u>Participant Counts</u></b>				
Active Participants	209	223	6.70%	
Participants Receiving a Benefit	174	185	6.32%	
Terminated Vested Participants	18	19	5.56%	
Transferred Participants	37	34	-8.11%	
Non-Vested Participants Due Refund	3	4	33.33%	
<b>Total</b>	<b>441</b>	<b>465</b>	<b>5.44%</b>	
Annual Pay of Active Members	\$ 13,735,701	\$ 15,245,596	10.99%	
<b><u>Assets and Liabilities</u></b>				
Actuarial Liability (AL)	\$ 80,791,046	\$ 90,791,309	12.38%	
Actuarial Value of Assets (AVA)	61,004,069	63,138,388	3.50%	
Unfunded Actuarial Liability (UAL)	\$ 19,786,977	\$ 27,652,921	39.75%	
Funded Ratio (AVA)	75.5%	69.5%	-5.97%	
Market Value of Assets (MVA)	\$ 60,149,108	\$ 60,379,125	0.38%	
Funded Ratio (MVA)	74.5%	66.5%	-7.95%	
Inactive Funded Ratio	60.9%	61.6%	0.68%	
<b><u>Contributions</u></b>				
Employer Contribution Payable Monthly	\$ 3,432,546	\$ 4,581,420	33.47%	
Employer Contribution (after phase in)	n/a	\$ 4,268,321		
Employer Contribution as a Percentage of Payroll	26.66%	30.67%	4.01%	
Employer Contribution as a Percentage of Payroll (after phase in)	n/a	28.62%		

**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**SECTION I – EXECUTIVE SUMMARY**

**C. Changes in Contributions**

Table I-2 summarizes the impact of actuarial experience on contributions.

<b>Table I-2 Employer Contribution Reconciliation</b>				
<b>Item</b>	<b>Total</b>	<b>Normal Cost</b>	<b>UAL Amortization</b>	<b>Admin Expense</b>
FYE 2021 Employer Contribution Rate	26.66%	11.21%	14.46%	0.99%
Change due to asset losses	0.74%	0.00%	0.74%	0.00%
Change due to PEPRA	-0.79%	-0.79%	0.00%	0.00%
Change due to demographic losses	0.09%	0.11%	-0.01%	-0.01%
Change due to amortization payroll	-0.72%	0.00%	-0.68%	-0.04%
Change due to contribution/expense shortfall	0.19%	0.00%	0.19%	0.00%
Change due to assumption changes	<u>4.50%</u>	<u>1.30%</u>	<u>2.57%</u>	<u>0.63%</u>
FYE 2022 Employer Contribution Rate	30.67%	11.83%	17.27%	1.57%
Impact of Phase In	<u>-2.05%</u>	<u>0.00%</u>	<u>-2.05%</u>	<u>0.00%</u>
FYE 2022 Employer Contribution Rate with Phase In	28.62%	11.83%	15.22%	1.57%

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

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

The actuarial return on assets was 4.93%, which is less than the assumed rate of 7.25%. This resulted in an increase in the contribution rate by 0.74% of payroll.

The Market Value of Assets is lower than the actuarial value; there are approximately \$2.8 million in deferred asset losses.

- Demographic experience (including PEPRA new hires) resulted in a net decrease in cost.

The demographic experience of the Plan – rates of retirement, death, disability, and termination – was close to that predicted by the actuarial assumptions in aggregate. The normal cost increased slightly as a result of changes in demographics within tiers.

However, 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. The impact of PEPRA resulted in a decrease in the employer normal cost rate of 0.79% of payroll.

The net impact on the contribution rate from changes in demographics was a decrease of 0.70% of payroll.

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**SECTION I – EXECUTIVE SUMMARY**

- Overall payroll growth was greater than expected.

Greater than expected growth in the projected payroll decreased the contribution rate by 0.72% of pay, since it results in the Plan’s Unfunded Actuarial Liability and administrative expenses being spread over a larger payroll base.

- Contributions fell slightly short of the actuarially determined cost.

Actual contributions were less than the total actuarially determined cost (including expenses), which resulted in an increase in the contribution rate by 0.19%. This was primarily due to the 12-month delay in the implementation of the contribution rates offset by a higher payroll than expected.

- Assumptions were changed.

Demographic assumptions – rates of retirement, death, disability, and termination – as well as economic assumptions were updated to reflect the most recent experience study. The assumed rate of return was reduced from 7.25% to 6.75%. The proposed assumptions from the experience study result in an increase in the contribution rate by 4.50%.

The current valuation also includes a proposed change to the funding policy to amortize changes in the UAL that occur after July 1, 2019 over individual closed 20-year periods as a percentage of pay – referred to as layered amortization. As there is no change to the amortization period for UAL from the prior valuation (with a remaining period of 12 years), this change has no impact on the payment schedule for the existing UAL. If adopted, the change to the funding policy will decrease the expected volatility in the employer contributions, since future UAL changes will no longer be amortized over a short, declining period.

The total impact on employer Plan cost from all changes is an increase of 4.01% of pay. The Board is considering a phase in the amortization payment on the UAL resulting from the adopted assumption changes over a three-year period. The phase in would decrease the contribution rate in the first year by 2.05%, from 30.67% to 28.62%.

Table I-3 summarizes the impact on Plan cost of phasing in the 2020 UAL assumption change amortization payment over three years.

Table I-3		
Employer Contribution Reconciliation - Projected 3-Year Phase In		
Item	Full Contribution	Phased Contribution
FYE 2022 Employer Contribution Rate	30.67%	28.62%
FYE 2023 Employer Contribution Rate	32.18%	31.12%
FYE 2024 Employer Contribution Rate	31.47%	31.63%
FYE 2025 Employer Contribution Rate	30.70%	30.95%



**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**SECTION I – EXECUTIVE SUMMARY**

**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.

**Assets and Liabilities**

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 is the ratio of the Actuarial Value of Assets to the Actuarial Liability (the funded ratio). The funded ratio has increased from 63.9% in 2013 to 69.5% in 2020, primarily as a result of the recovery in the investment markets and contributions made to the plan. The reduction in the funded ratio in 2020 is a result of assumption changes and investment losses. Prior to 2013, the valuation reports did not report a separate funded ratio or unfunded liability for the ATU/IBEW plans.



RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
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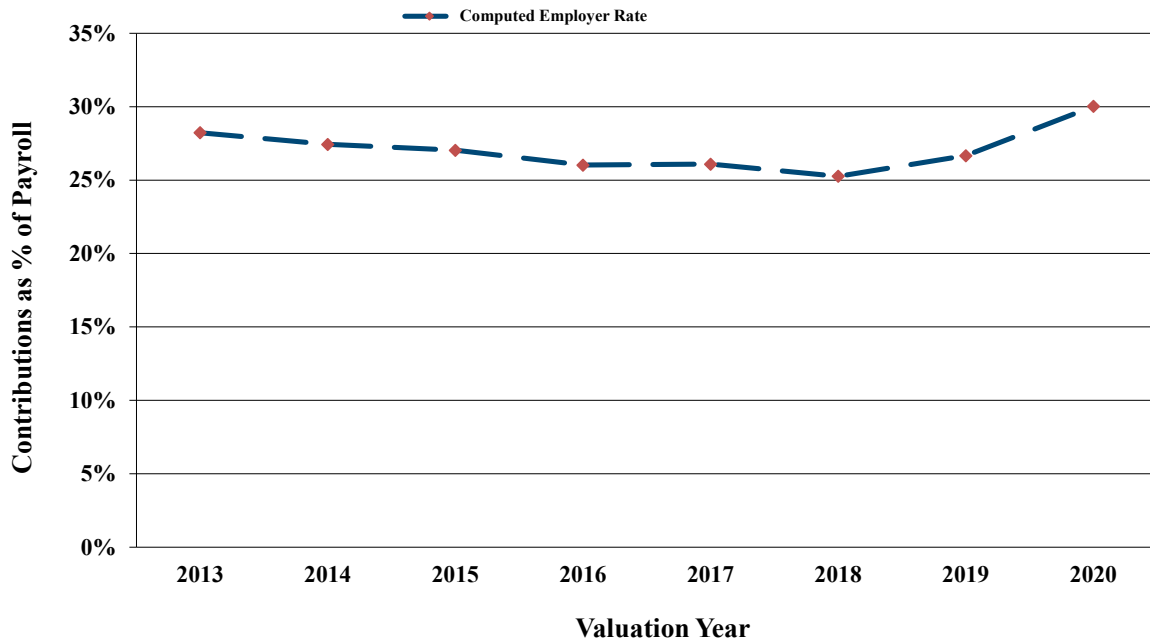
SECTION I – EXECUTIVE SUMMARY

**Contribution Trends**

In the chart, we present the Plan’s historical actuarially determined contribution rates (excluding the impact of any phase-in of assumption changes). After a period of steady and declining rates, contribution rates increased in 2019 due to investment losses and larger than anticipated salary increases for continuing actives and IBEW transferred participants currently active in AFSC and MCEG. The contribution rate increased in 2020 primarily due to the assumption changes included as part of the recent experience study.

Prior to 2013, the valuation reports did not include a separate contribution rate for the ATU/IBEW plans.

Sacramento Regional Transit District Employees: IBEW

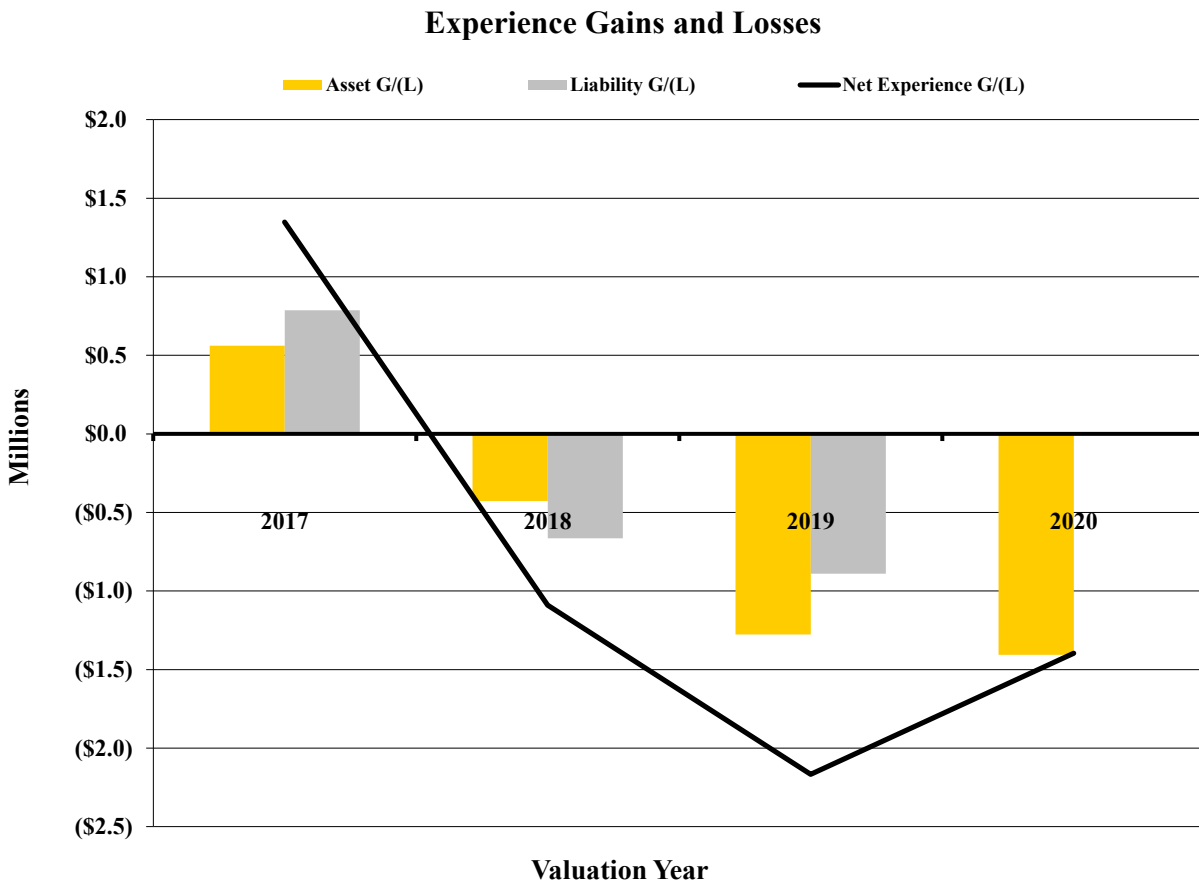


RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020

SECTION I – EXECUTIVE SUMMARY

**Gains and Losses**

The chart below presents the pattern of annual gains and losses for the overall Plan, broken into the investment and liability components. Only four years are shown, since prior to 2017 the gain/loss analysis was only performed on a combined basis for ATU and IBEW. 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.



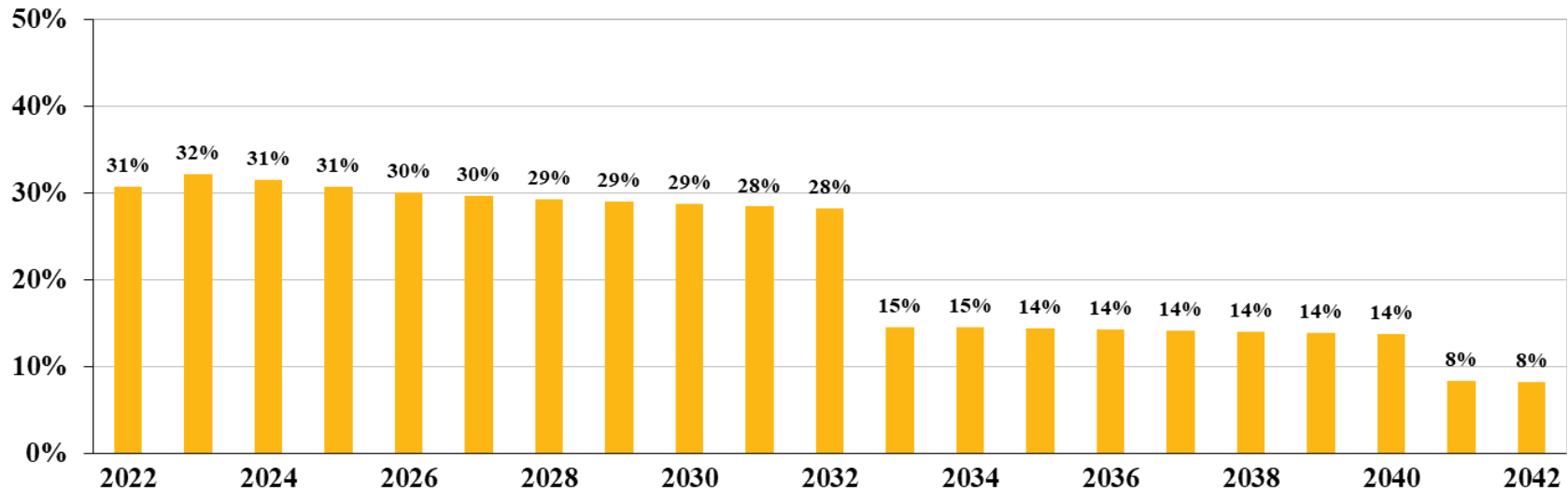
RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
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SECTION I – EXECUTIVE SUMMARY

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, 2020 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 6.75% assumption each year, which is clearly an impossibility. We have also assumed future salary increases of 2.75% per year. We have not included the impact of the phase in into this chart; with the phase in the contributions are expected to follow the schedule as shown in Table I-3, with the rates in the years following being about 0.20% of pay higher than the rates without phase in.

Projection of Employer Contributions 6.75% return each year



The contribution rate graph shows that the District’s contributions are expected to decrease slightly over the next ten years since the employer-paid portion of the normal cost decreases as PEPR membership increases. The employer contribution rate is expected to decline substantially in FYE 2033, once the existing unfunded liability from the prior valuation is fully amortized.

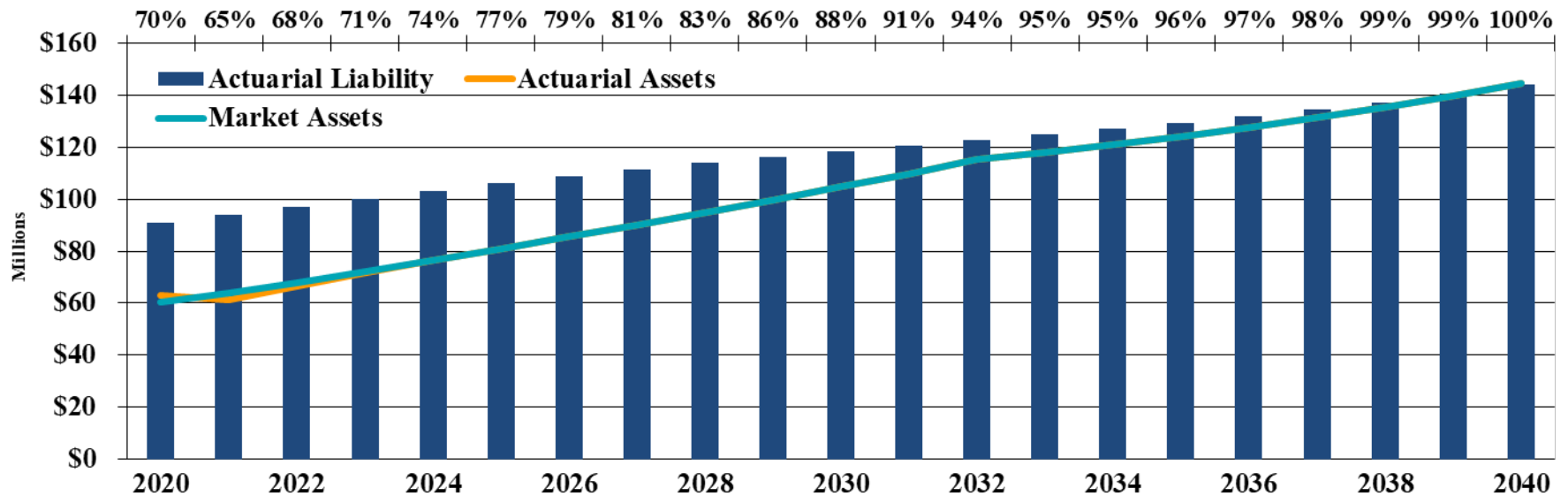
**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
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**SECTION I – EXECUTIVE SUMMARY**

The dollar actuarial cost for the District will be approximately \$4.8 million in 2021-2022 (\$4.5 million with a phase in), growing as pay increases to around \$5.8 million in 2031-2032, then dropping significantly the following years when the bulk of the unfunded liability amortization payment disappears.

The following graph shows the projection of assets and liabilities assuming that assets will earn the 6.75% assumption each year during the projection period. The graph shows that the funded status is expected to increase steadily over the next 12 years as the existing unfunded liability from the prior valuation is fully amortized, assuming the actuarial assumptions are achieved. However, as above, it is primarily the actual return on Plan assets that will determine the future funding status and contribution rate to the Plan.

**Projection of Assets and Liabilities 6.75% return each year**



## SECTION II – DISCLOSURES RELATED TO RISK

Actuarial valuations are based on a set of assumptions about future economic and demographic experience. These assumptions represent a reasonable estimate of future experience, but actual future experience will undoubtedly be different and may vary significantly.

Actuarial Standard of Practice (ASOP 51) requires actuaries to identify and assess risks that “may reasonably be anticipated to significantly affect the plan’s future financial condition.” This section of the report is intended to identify the primary risks to the Plan, provide some background information about those risks, and provide an assessment of those risks.

### Identification of Risks

The fundamental risk to a pension plan is that the contributions needed to pay the benefits become unaffordable. Even in the case that the Plan remains affordable, the contributions needed to support the Plan may differ significantly from expectations. While there are a number of factors that could lead to contribution amounts deviating from expectations, we believe the primary risks are:

- Investment risk,
- Assumption change risk,
- Longevity and other demographic risk, and
- Contribution risk.

Other risks that we have not identified may also turn out to be important.

*Investment Risk* is the potential for investment returns to be different than expected. Lower investment returns than anticipated will increase the Unfunded Actuarial Liability necessitating higher contributions in the future unless there are other gains that offset these investment losses. The potential volatility of future investment returns is determined by the Plan’s asset allocation and the affordability of the investment risk is determined by the amount of assets invested relative to the size of the plan sponsor or other contribution base.

*Assumption change risk* is the potential for the environment to change such that future valuation assumptions are different than the current assumptions. For example, declines in interest rates over the last three decades resulted in higher investment returns for fixed-income investments, but lower expected future returns necessitating either a change in investment policy, a reduction in discount rate, or some combination of the two. Assumption change risk is an extension of the other risks identified, but rather than capturing the risk as it is experienced, it captures the cost of recognizing a change in environment when the current assumption is no longer reasonable.

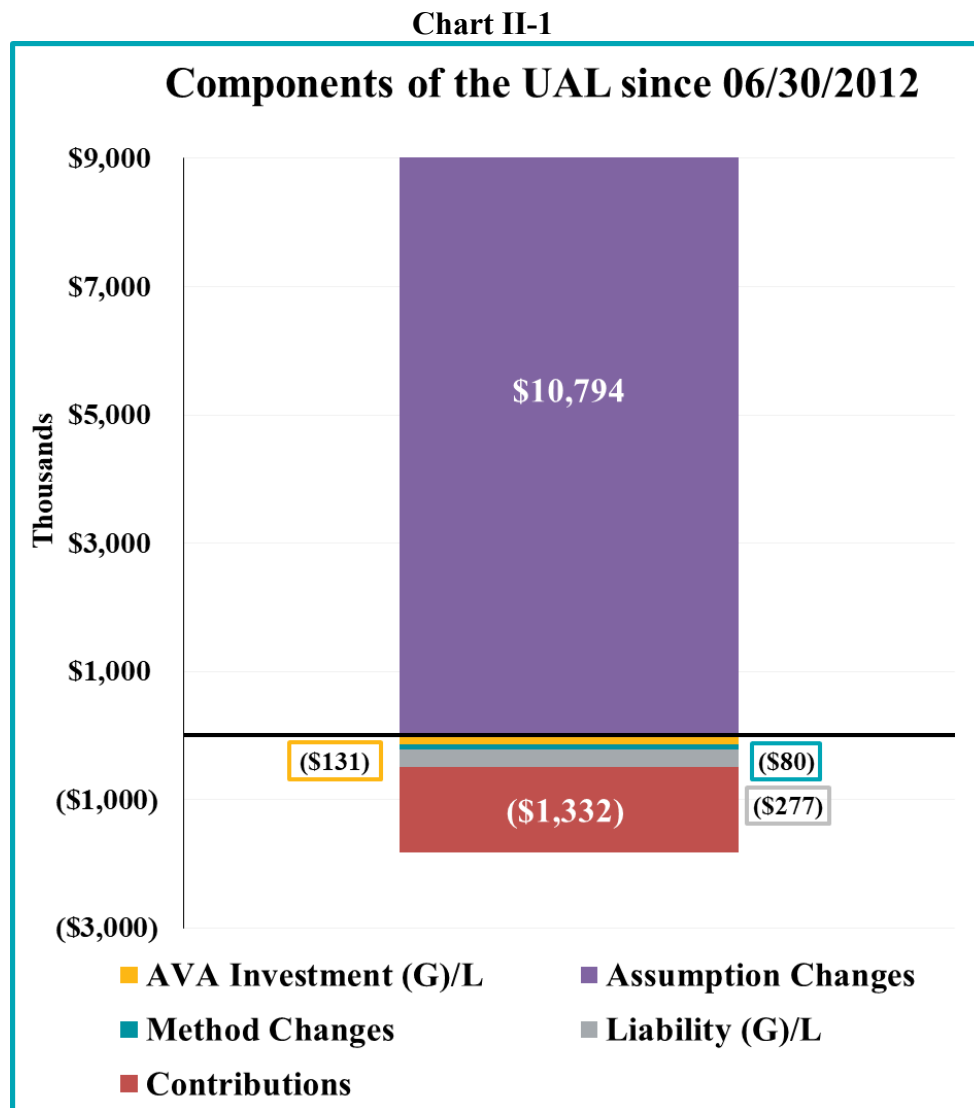
*Longevity and other demographic risks* are the potential for mortality or other demographic experience to be different than expected. Generally, longevity and other demographic risks emerge slowly over time and are often dwarfed by other changes, particularly those due to investment returns.

*Contribution risk* is the potential for actual future contributions to deviate from expected future contributions. There are different sources of contribution risk ranging from the sponsor choosing

**SECTION II – DISCLOSURES RELATED TO RISK**

to not make contributions in accordance with the funding policy to material changes in the contribution base (e.g., covered employees, covered payroll, sponsor revenue) that affect the amount of contributions the Plan can collect.

The chart below shows the primary components contributing to the Unfunded Actuarial Liability (UAL) from June 30, 2012 through June 30, 2020. Over the last eight years, the UAL has increased by approximately \$9.0 million. The assumption changes (purple bar) resulting in a total UAL increase of \$10.8 million is the largest source of UAL growth, partially offset by liability gains (\$0.3 million, gray bar) and net investment gains (\$0.1 million, gold bar). Method changes and liability gains/losses have had very little net impact over the past eight years.



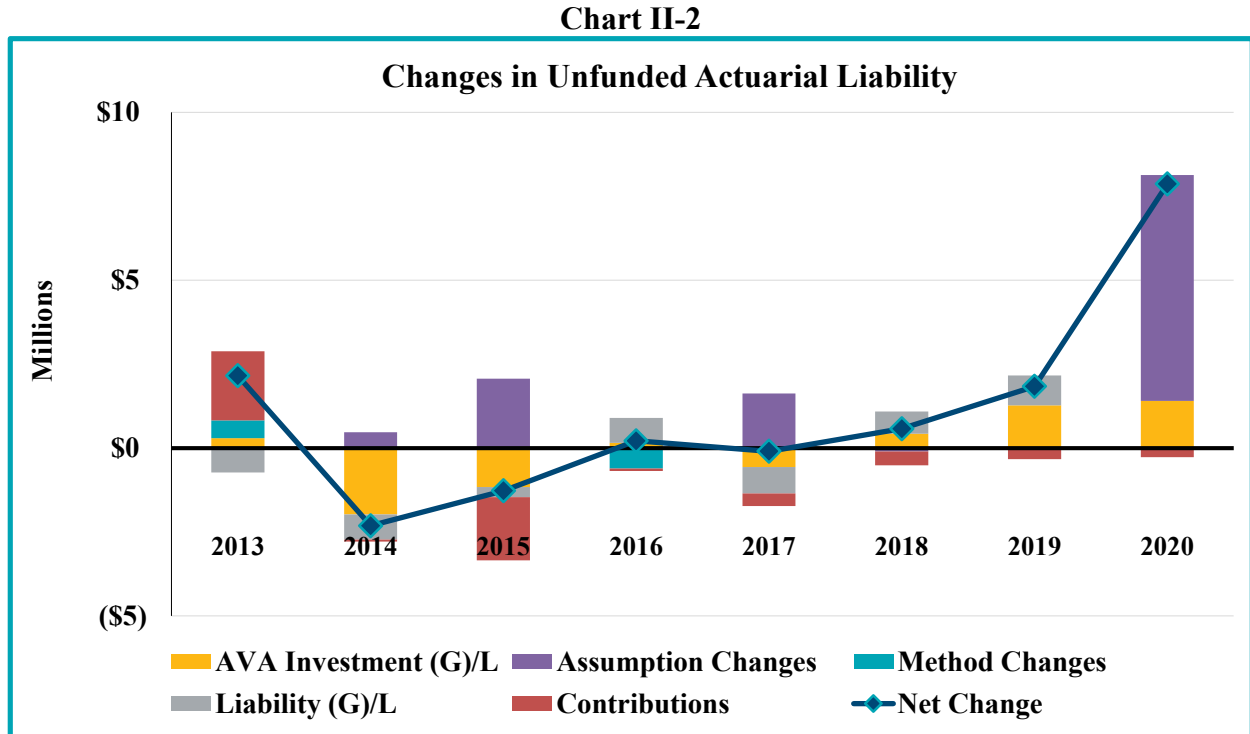
Each year the UAL is expected to increase for benefits earned in the current year (the normal cost), administrative expenses, and interest on the UAL. This expected increase is referred to as the tread water level. If contributions are greater than the tread water level, the UAL is expected to decrease. Conversely, if contributions are less than the tread water level, the UAL is expected

**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
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**SECTION II – DISCLOSURES RELATED TO RISK**

to increase. The amortization policy (as well as the contribution-timing lag) can impact whether or not the contributions exceed the tread water level. Contributions above the “tread-water” level (red bar) have decreased the UAL by \$1.3 million. In addition, method changes (teal bar) have decreased the UAL by \$0.1 million since June 30, 2012.

Chart II-2 below details the annual sources of the UAL change (colored bars) for each valuation year. The net UAL change for each year is represented by the blue diamonds.



The impact of all assumption changes is represented by the purple bars. In 2015 and 2020, there were experience studies performed, which resulted in significant increases in liabilities, primarily due to changes in the salary merit scale, administrative expense assumption, and reductions in the discount rate. The discount rate was also reduced in 2014 and 2017.

On the liability side (gray bars), the Plan has experienced offsetting gains and losses, decreasing the UAL by approximately \$277 thousand over the eight-year period resulting from participants retiring, terminating, becoming disabled and dying at rates different from the actuarial assumptions as well as unexpected changes in salaries. Most of this type of activity is normal in the course of Plan experience. The Plan will experience actuarial gains and losses over time because we cannot predict exactly how people will behave. When a plan experiences alternating gains and losses that are small compared to the total actuarial liability, the Plan’s actuarial assumptions are reasonable.

The method changes that decreased the UAL by \$0.1 million include the change in actuarial software and coding associated with the Entry Age Normal cost calculation in 2013 as well as



**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
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**SECTION II – DISCLOSURES RELATED TO RISK**

the reallocation of assets between ATU and IBEW in 2016 when the plans began reporting on a separate basis.

While the net investment gains and losses have not been the largest driver of UAL changes over the past eight years, the year-to-year investment volatility can have a large impact on the UAL and is unpredictable. For example, the actuarial investment gain in 2014 was \$2.0 million compared to the \$1.4 million actuarial loss in this valuation.

Table II-1 below shows the same information as Chart II-2, but the annual source of the UAL change is shown numerically.

Table II-1 Unfunded Actuarial Liability (UAL) Change by Source						
Valuation Year	Assumption Changes	Method Changes	Contributions	Investment Experience	Liability Experience	Total UAL Change
2013	0	525,244	2,057,409	298,768	(727,713)	2,153,709
2014	468,791	0	(58,467)	(1,972,330)	(751,011)	(2,313,016)
2015	2,070,326	0	(1,882,740)	(1,162,852)	(294,785)	(1,270,052)
2016	0	(604,762)	(75,499)	157,348	739,723	216,810
2017	1,628,239	0	(376,790)	(560,888)	(787,472)	(96,911)
2018	(103,071)	0	(408,784)	426,841	663,797	578,783
2019	0	0	(327,030)	1,276,660	889,863	1,839,494
2020	6,729,821	0	(260,374)	1,405,467	(8,970)	7,865,944
<b>Total</b>	<b>\$ 10,794,106</b>	<b>\$ (79,518)</b>	<b>\$ (1,332,275)</b>	<b>\$ (130,986)</b>	<b>\$ (276,567)</b>	<b>\$ 8,974,761</b>

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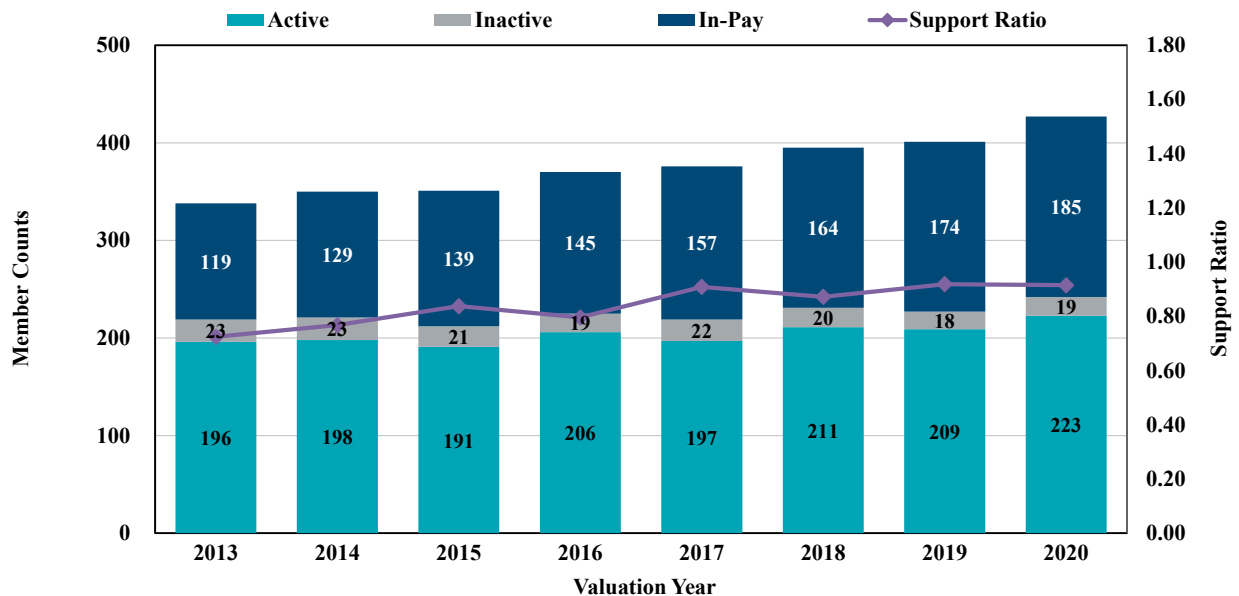
**Plan Maturity Measures**

The future financial condition of a mature pension plan is more sensitive to each of the risks identified above than a less mature plan. Before assessing each of these risks, it is important to understand the maturity of the plan compared to other plans and how the maturity has changed over time.

Plan maturity can be measured in a variety of ways, but they all get at one basic dynamic – the larger the plan is compared to the contribution or revenue base that supports it; the more sensitive the plan will be to risk. The measures on the next page have been selected as the most important in understanding the primary risks identified for the plan.

**Inactives per Active (Support Ratio)**

One simple measure of plan maturity is the ratio of the number of inactive members (those receiving benefits or inactives – those entitled to a deferred benefit) to the number of active members. The Support Ratio is expected to increase gradually as a plan matures. The chart below shows the Support Ratio has gradually grown from 0.72 in 2013 to 0.91 in 2020 as the number of retired members increased at a faster rate than the number of active members.



**Leverage Ratios**

Leverage or volatility ratios measure the size of the plan compared to its revenue base more directly. The asset leverage ratio is simply the market value of assets to active member payroll and indicates the sensitivity of the Plan to investment returns. The liability leverage ratio is the

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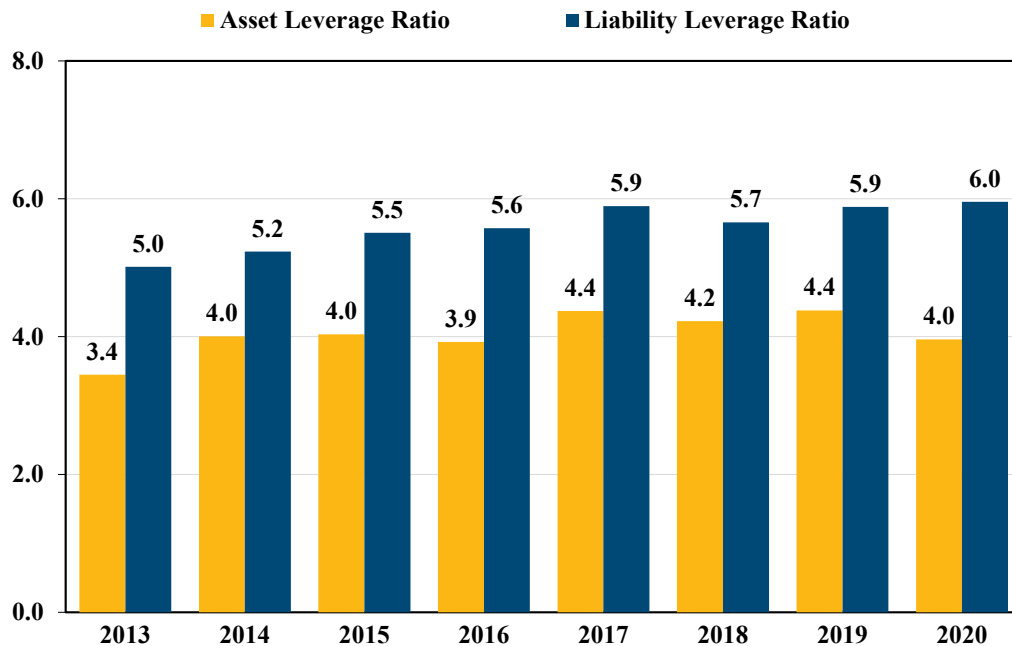
**SECTION II – DISCLOSURES RELATED TO RISK**

Plan’s Actuarial Liability to active member payroll and indicates the sensitivity of the Plan to assumption changes or demographic experience.

The Plan assets are currently close to four times covered payroll. As the Plan becomes better funded, the asset leverage ratio will increase, and if it was 100% funded, the asset leverage ratio would be about six and equal the Actuarial Liability (AL) leverage ratio. Although both of these ratios are lower than those of many other public plans, the increase in the asset leverage ratio expected to accompany an improvement in the Plan’s funding still represents a substantial increase in the volatility of the contributions.

An asset leverage ratio of 4.0 means that if the Plan’s assets lose 10% of their value (a 16.75% actuarial loss compared to the expected return of 6.75%), the loss is about 67% of payroll (4.0 x 16.75%). Based on the current amortization policy, the contribution rate would ultimately increase by approximately 4.9% of payroll if asset smoothing were not applied and the loss were amortized over 20 years. The same investment loss if the Plan were 100% funded would be around 100% of payroll and an ultimate contribution rate increase of about 7.2% of payroll, if amortized over 20 years.

The chart below shows the historical leverage ratios of the Plan. Both leverage ratios have increased since 2013, though the asset ratio declined from 2019 to 2020.



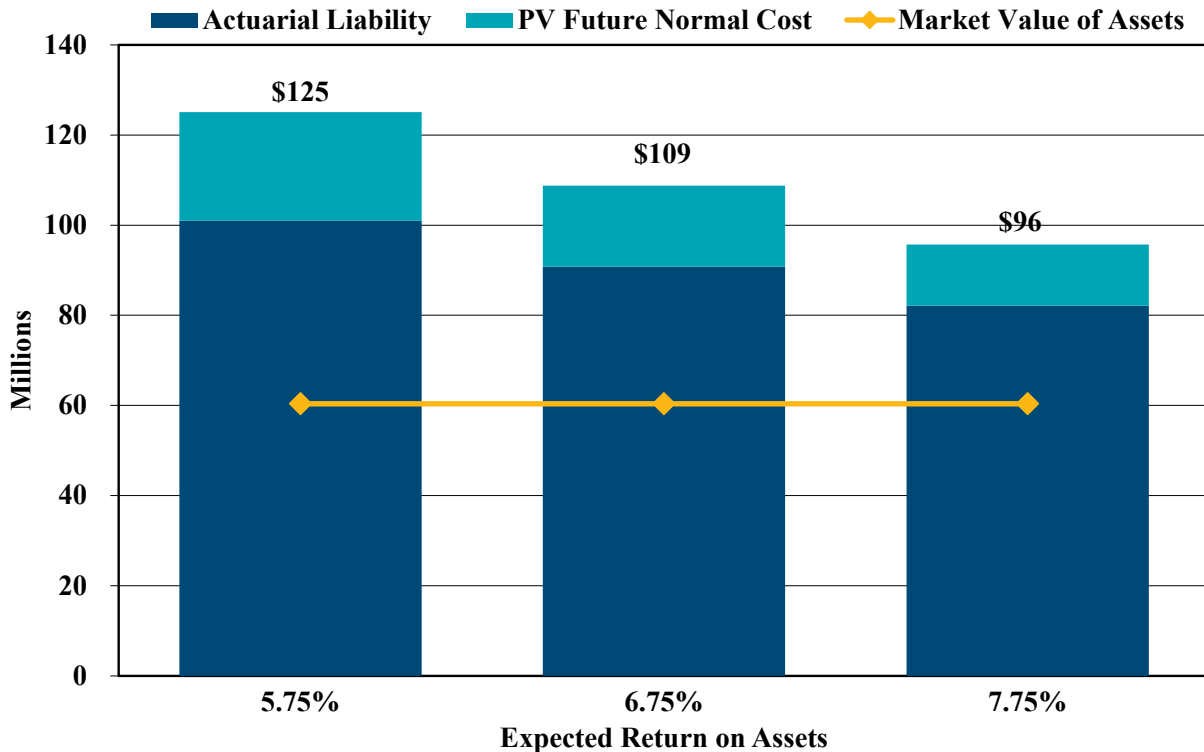
SECTION II – DISCLOSURES RELATED TO RISK

Assessing Costs and Risks

Sensitivity to Investment Returns

The chart below compares assets to the present value of all projected future benefits discounted at the current expected rate of return and at an investment return 100 basis points above and below the expected rate of return. The present value of future benefits is shown as a bar with the portion attributable to past service in dark blue (Actuarial Liability) and the portion attributable to future service in teal (Present Value of Future Normal Costs). The Market Value of Assets is shown by the gold line.

Present Value of Future Benefits versus Assets



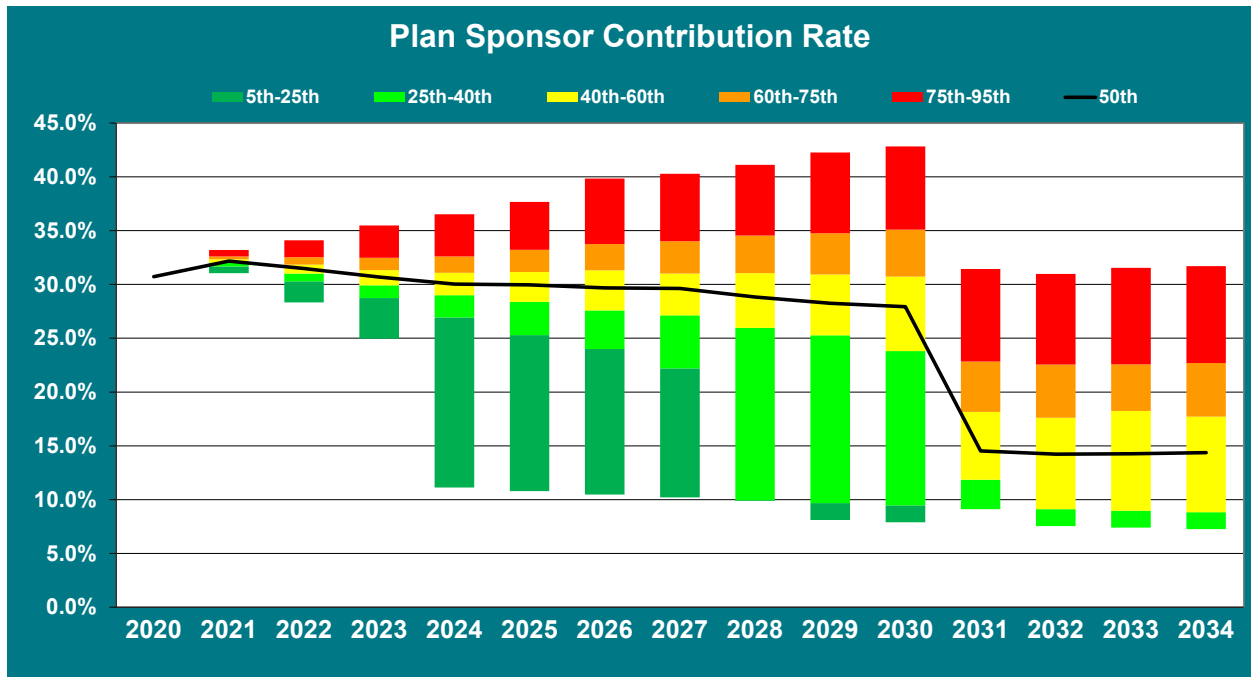
If investments return 6.75% annually, the Plan would need approximately \$109 million in assets today to pay all projected benefits compared to current assets of \$60 million. If investment returns are only 5.75%, the Plan would need approximately \$125 million in assets today, and if investment returns are 7.75%, the Plan would need approximately \$96 million in assets today.

**SECTION II – DISCLOSURES RELATED TO RISK**

**Stochastic Projections**

Stochastic projections serve to show the range of probable outcomes of various measurements. The chart below and on the following page show the projected range of the employer contribution rate and of the funded ratio on an Actuarial Value of Assets basis. The range in both scenarios is driven by the volatility of investment returns (assumed to be based on a 12.4% standard deviation of annual returns, as estimated and described in the Experience Study Report).

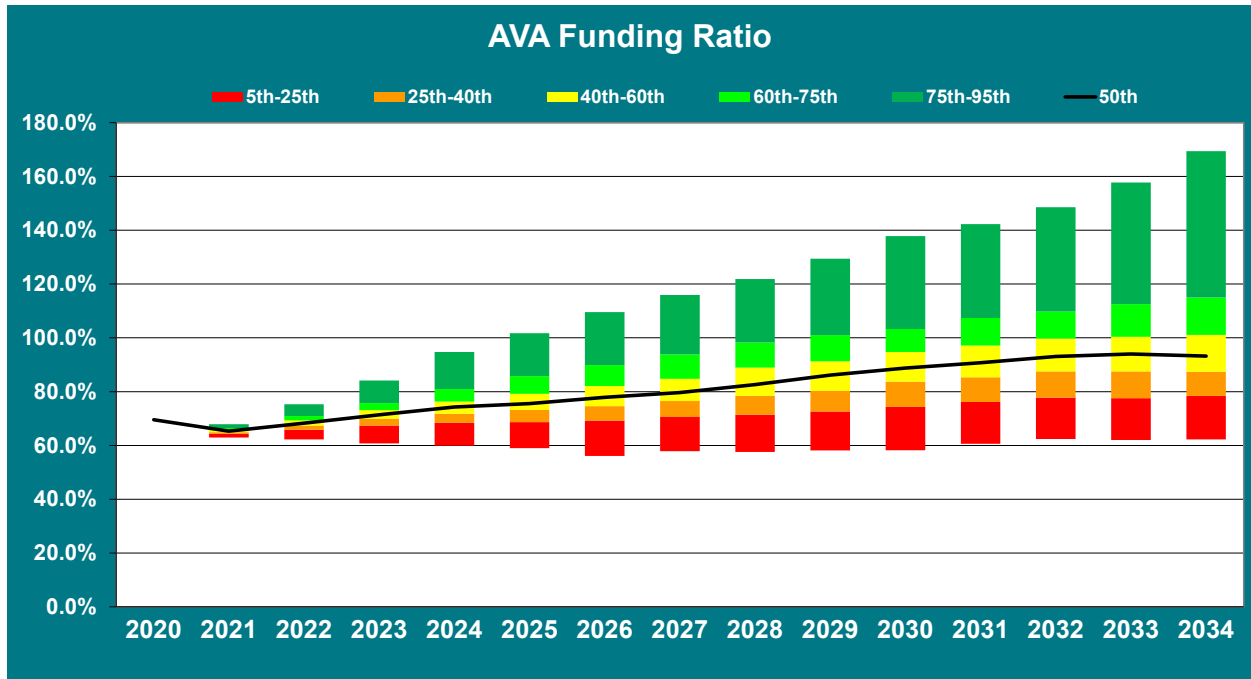
**Stochastic Projection of Employer Contributions as a Percent of Pay**



The stochastic projection of employer contributions as a percent of pay shows the probable range of future contribution rates. The baseline contribution rate (black line), which is based on the median of the simulations using an average return of 6.75%, aligns closely with the projections discussed in subsection D of the Executive Summary of this report. In the most pessimistic scenario shown, the 95<sup>th</sup> percentile, the projected employer contribution rate is about 43% of pay for the 2030 valuation (FYE 2032). Conversely, the most optimistic scenario shown, the 5<sup>th</sup> percentile, the projected employer contribution falls below 10% starting with the 2029 valuation (FYE 2031). We note that these projections set the employer contribution to not fall below the normal cost, as required under PEPRAs.

**SECTION II – DISCLOSURES RELATED TO RISK**

**Stochastic Projection of Funded Ratio on an Actuarial Value of Assets Basis**



The graph above shows the projection of the funded ratio based on the Actuarial Value of Assets. It is based on the same layered amortization policy described above, where the current UAL as of July 1, 2019 is paid off over 12 years, and all future gains or losses are amortized over a new closed 20-year period. While the baseline-funded ratio (black line) is projected to be nearly 100% at the end of the period shown here, there is a wide range of potential outcomes. Good investment returns have the likelihood of bringing the funded ratio well over 100%.

Under both the current funding policy of the Plan, even in scenarios with unfavorable investment returns the Plan is projected to remain close to 60% funded on an actuarial value of assets basis, as long as the actuarially determined contributions continue to be made.

**Contribution Risk**

While investment returns are typically the dominant factor in volatility, contribution rates can also be sensitive to future salary increases and the hiring of new members. When member payroll growth stagnates or even declines, the dollar level of contributions made to the Plan also stagnates or declines since contributions are based on payroll levels, though this will generally only present a funding issue if there is an extended period of payroll reductions.

There is also a risk of the contribution rate increasing even higher when payroll decreases since the Plan’s funding policy amortizes the UAL as a level percentage of pay. This means that the UAL payments increase at the assumed payroll growth rate of 2.75%, so that the payment is expected to remain constant as a percentage of payroll. If payroll growth is less than the expected 2.75% or there is a decline in payroll, the UAL payments are spread over a smaller payroll base

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and the contribution rate as a percentage of pay increases, making the Plan less affordable for those sponsors with declining payroll bases.

For example, the UAL Amortization rate as of June 30, 2020 for the FYE 2022 is 15.22% after reflecting the phase in. If the projected payroll for FYE 2022 were 2.75% lower, all else being equal, the UAL Amortization rate would increase to 15.64%.

**More Detailed Assessment**

While a more detailed assessment is always valuable to enhance the understanding of the risks identified above, we believe the scenarios illustrated above cover the primary risks facing the Plan at this time. We would be happy to provide the Board with a more in-depth analysis at their request.

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**SECTION III – 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, 2019 and June 30, 2020
- 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 “snapshot” 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 III-1 discloses and compares each component of the market asset value as of June 30, 2019 and June 30, 2020.

<b>Table III-1</b>			
<b>Statement of Assets at Market Value</b>			
<b>June 30,</b>			
<b>Investments</b>		<b>2019</b>	<b>2020</b>
Cash and Cash Equivalents	\$	2,203,967	\$ 3,194,679
Equity Securities		37,890,099	40,270,748
Fixed Income Securities		21,082,948	19,091,086
Total Investments	\$	61,177,014	\$ 62,556,513
<b>Receivables:</b>			
Securities Sold	\$	331,712	\$ 2,632,707
Interest and Dividends		116,384	89,210
Other Receivable		63,637	12,197
Total Receivables	\$	511,733	\$ 2,734,114
<b>Payables</b>			
Accounts Payable	\$	(163,075)	\$ (359,298)
Benefits Payable		0	0
Other Payable		(1,376,564)	(4,552,204)
Total Payables	\$	(1,539,639)	\$ (4,911,502)
<b>Market Value of Assets</b>	<b>\$</b>	<b>60,149,108</b>	<b>\$ 60,379,125</b>



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**SECTION III – 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 III-2 shows the components of a change in the Market Value of Assets during 2019 and 2020.

<b>Table III-2 Changes in Market Values</b>		
	<b><u>2019</u></b>	<b><u>2020</u></b>
<b>Contributions</b>		
Employer's Contribution	\$ 3,299,013	\$ 3,230,879
Members' Contributions	209,531	304,593
Total Contributions	<u>\$ 3,508,544</u>	<u>\$ 3,535,472</u>
<b>Investment Income</b>		
Interest & Dividends	\$ 1,178,611	\$ 1,032,631
Realized & Unrealized Gain/(Loss)	2,570,415	334,330
Other Investment Income	0	0
Investment Expenses	<u>(266,394)</u>	<u>(284,302)</u>
Total Investment Income	<u>\$ 3,482,632</u>	<u>\$ 1,082,659</u>
<b>Disbursements</b>		
Benefit Payments	\$ (3,779,076)	\$ (4,169,979)
Expenses	(229,569)	(218,135)
Transfer from/(to) Union Plans	0	0
Total Disbursements	<u>\$ (4,008,645)</u>	<u>\$ (4,388,114)</u>
<b>Net increase (Decrease)</b>	<b>\$ 2,982,531</b>	<b>\$ 230,017</b>
<b>Net Assets Held in Trust for Benefits:</b>		
Beginning of Year	\$ 57,166,577	\$ 60,149,108
End of Year	<u>\$ 60,149,108</u>	<u>\$ 60,379,125</u>
Approximate Return	6.12%	1.81%
Administrative Expenses as a Percentage of Mean Assets	0.38%	0.36%

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**SECTION III – ASSETS**

**Actuarial Value of Assets (AVA)**

The Actuarial Value of Assets represents a “smoothed” value developed by the actuary to reduce the volatile results that 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 III-3 Development of Actuarial Value of Assets as of July 1, 2020							
	(a)	(b)	(c)	(d)	(e) = (d) – (c)	(f)	(g) = (e) x (f)
Year	Total Contributions	Total Disbursements	Expected Return	Actual Return	Additional Earnings	Not Recognized	Unrecognized Earnings
2016-2017	3,354,666	(3,520,537)	3,662,673	5,332,412	1,669,739	20%	333,948
2017-2018	3,299,327	(3,847,437)	3,901,302	3,629,568	(271,734)	40%	(108,694)
2018-2019	3,508,544	(4,008,645)	4,126,448	3,482,632	(643,816)	60%	(386,290)
2019-2020	3,535,472	(4,388,114)	4,330,443	1,082,659	(3,247,784)	80%	(2,598,227)
1. Total Unrecognized Dollars							(2,759,263)
2. Market Value of Assets as of June 30, 2020							60,379,125
3. Actuarial Value of Assets as of June 30, 2020: [(2) - (1)]							63,138,388
4. Ratio of Actuarial Value to Market Value [(3) ÷ (2)]							104.57%

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**SECTION III – 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 7.25% assumption.

<b>Table III-4 Asset Gain/(Loss)</b>		
	<b>Market Value</b>	<b>Actuarial Value</b>
<b>July 1, 2019 value</b>	\$ <b>60,149,108</b>	\$ <b>61,004,069</b>
Employer Contributions	3,230,879	3,230,879
Employee Contributions	304,593	304,593
Benefit Payments and Expenses	(4,388,114)	(4,388,114)
Expected Investment Earnings (7.25%)	4,330,443	4,392,428
Expected Value June 30, 2020	\$ <b>63,626,909</b>	\$ <b>64,543,855</b>
Investment <b>Gain / (Loss)</b>	<b>(3,247,784)</b>	<b>(1,405,467)</b>
<b>July 1, 2020 value</b>	\$ <b>60,379,125</b>	\$ <b>63,138,388</b>
Return	1.81%	4.93%

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**SECTION IV – LIABILITIES**

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

- **Disclosure** of Plan liabilities on July 1, 2019 and July 1, 2020
- 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 IV-1 discloses each of these liabilities for the current and prior valuations.

<b>Table IV-1</b>			
<b>Liabilities/Net (Surplus)/Unfunded</b>			
	<b>July 1, 2019</b>		<b>July 1, 2020</b>
<b><u>Present Value of Future Benefits</u></b>			
Active Participant Benefits	\$	44,187,533	\$ 52,817,093
Retiree and Inactive Benefits		49,224,174	55,935,118
<b>Present Value of Future Benefits (PVB)</b>	<b>\$</b>	<b>93,411,707</b>	<b>\$ 108,752,211</b>
<b><u>Actuarial Liability</u></b>			
Present Value of Future Benefits (PVB)	\$	93,411,707	\$ 108,752,211
Present Value of Future Normal Costs (PVFNC)		12,620,661	17,960,902
<b>Actuarial Liability (AL = PVB – PVFNC)</b>	<b>\$</b>	<b>80,791,046</b>	<b>\$ 90,791,309</b>
Actuarial Value of Assets (AVA)		61,004,069	63,138,388
<b>Net (Surplus)/Unfunded (AL – AVA)</b>	<b>\$</b>	<b>19,786,977</b>	<b>\$ 27,652,921</b>

**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
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**SECTION IV – LIABILITIES**

**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
- Transfers of liabilities from one plan to another

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
- Transfer of assets from one plan to another

<b>Table IV-2</b>		
<b>Changes in Actuarial Liability</b>		
Actuarial Liability at July 1, 2019	\$	80,791,046
Actuarial Liability at July 1, 2020	\$	90,791,309
Liability Increase (Decrease)		10,000,263
Change due to:		
Actuarial Methods / Software Changes	\$	0
Plan Changes		0
Assumption Changes		6,729,821
Accrual of Benefits		1,680,698
Actual Benefit Payments		(4,169,979)
Interest		5,768,693
Actuarial (Gain)/Loss		(8,970)

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**SECTION IV – LIABILITIES**

Table IV-3 Development of Actuarial Gain / (Loss)	
1. Unfunded Actuarial Liability at Start of Year (not less than zero)	\$ 19,786,977
2. Employer Normal Cost at Middle of Year	1,680,698
3. Interest on 1. and 2. to End of Year	1,494,415
4. Expected Contributions, Admin Expenses and Transfers in Prior Year	3,666,960
5. Interest on 4. to End of Year	130,602
6. Change in Unfunded Actuarial Liability Due to Changes in Actuarial Methods	0
7. Change in Unfunded Actuarial Liability Due to Changes in Assumptions	6,729,821
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.]	\$ 25,894,349
10. Actual Unfunded Actuarial Liability at End of Year (not less than zero)	27,652,921
11. Actuarial Gain / (Loss) [9. – 10.]	\$ (1,758,572)
Actuarial Gain / (Loss) From Liabilities less than expected	8,970
Actuarial Gain / (Loss) From Actuarial Asset returns less than expected	(1,405,467)
Actuarial Gain / (Loss) From Expenses more than expected	(85,054)
Actuarial Gain / (Loss) From Contributions less than expected	(277,022)

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**SECTION V – 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 for each member 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 12-year level percentage of payroll amortization of the remainder of the Unfunded Actuarial Liability as of July 1, 2019, again assuming mid-year payment to reflect the fact that employer contributions are made throughout the year. This valuation includes a proposed change in the funding policy to amortize future changes in the UAL (including the 2020 experience and assumption changes effective July 1, 2020) over new closed 20-year schedules, known as layered amortization. Additionally, the Board is considering a three-year phase in of the amortization payment for the increase in the UAL due to the 2020 experience study changes.

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.

IBEW members hired on or after January 1, 2015 will contribute between 1.5% and 4.5% of Compensation to the Plan through April 1, 2018 and then will contribute half of the PEPRA normal cost of the Plan rounded to the nearest 0.25%. Once established, the 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 6.00% of payroll (1/2 of 12.12%, rounded to the nearest quarter). However, the normal cost rate for PEPRA members as of July 1, 2020 valuation is 13.96%, and since the change is more than 1%, the rate for the following fiscal year increases to 7.00% (1/2 of 13.96%, rounded to the nearest quarter). Table V-2 contains the details of this calculation.

The tables on the following pages present the employer contributions for the Plan for the current and prior valuations as well as details on the amortization of the UAL.

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**SECTION V – CONTRIBUTIONS**

<b>Table V-1 Development of Employer Contribution Amount</b>			
	July 1, 2019	July 1, 2020	July 1, 2020 with phase in
1. Entry Age Normal Cost (Middle of Year)			
a. Termination	\$ 167,371	\$ 213,301	
b. Retirement	1,272,218	1,753,142	
c. Disability	152,443	99,696	
d. Death	76,413	66,792	
e. Refunds	12,252	14,772	
f. Total Normal Cost (a) + (b) + (c) + (d) + (e)	\$ 1,680,697	\$ 2,147,703	\$ 2,147,703
2. Entry Age Actuarial Liability			
<u>Active Members</u>			
a. Termination	\$ (299,405)	\$ (262,607)	
b. Retirement	28,999,268	33,332,559	
c. Disability	1,885,630	1,073,274	
d. Death	1,010,193	764,781	
e. Refunds	(28,814)	(51,816)	
f. Total Active Liability: (a) + (b) + (c) + (d) + (e)	\$ 31,566,872	\$ 34,856,191	
<u>Inactive Members</u>			
g. Termination	\$ 974,167	\$ 1,231,535	
h. Retirement	38,056,487	43,254,751	
i. Disability	1,815,136	1,861,089	
j. Death	1,445,877	1,917,223	
k. Non-Vested Due Refund	8,187	-	
l. Transfer	6,924,320	7,670,520	
m. Total Inactive Liability: (g) + (h) + (i) + (j) + (k) + (l)	\$ 49,224,174	\$ 55,935,118	
n. Total Entry Age Actuarial Liability: (2f) + (2m)	\$ 80,791,046	\$ 90,791,309	
3. Actuarial Value of Assets	\$ 61,004,069	\$ 63,138,388	
4. Unfunded Actuarial Liability: (2n) - (3)	\$ 19,786,977	\$ 27,652,921	
5. Unfunded Actuarial Liability Amortization at Middle of Year as a Level Percentage of Payroll	\$ 1,986,262	\$ 2,633,436	\$ 2,320,337
6. Expected Administrative Expenses	\$ 136,006	\$ 240,000	\$ 240,000
7. Expected Member Contributions	\$ (248,167)	\$ (439,719)	\$ (439,719)
8. Employer Contribution Payable in Monthly Installments: (1f) + (5) + (6) + (7)	\$ 3,554,798	\$ 4,581,420	\$ 4,268,321
9. Covered Payroll (Normal Cost)	\$ 12,779,366	\$ 14,445,689	\$ 14,445,689
10. Covered Payroll (UAL Amort and Expenses)	\$ 13,735,701	\$ 15,245,596	\$ 15,245,596
11. Employer Contribution as a Percent of Covered Payroll: [(1f) + (7)] / (9) + [(5) + (6)] / (10)	26.66%	30.67%	28.62%



**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**SECTION V – CONTRIBUTIONS**

Table V-2 Development of Amortization Payment							
<u>Type of Base</u>	<u>Date Established</u>	<u>Initial Amount</u>	<u>Initial Amortization Years</u>	<u>07/01/2020 Outstanding Balance</u>	<u>Remaining Amortization Years</u>	<u>Amortization Amount without Phase-In</u>	<u>Amortization Amount with Phase In</u>
Remaining UAL as of 2019	07/01/2019	\$ 19,786,976	13	\$ 19,164,528	12	\$ 2,018,164	\$ 2,018,164
2020 Experience	07/01/2020	1,758,572	20	1,758,572	20	127,468	127,468
Assumption changes <sup>1</sup>	07/01/2020	6,729,821	20	6,729,821	20	487,804	174,704
<b>Total Unfunded Actuarial Liability (UAL)</b>				<b>\$ 27,652,921</b>		<b>\$ 2,633,436</b>	<b>\$ 2,320,337</b>

<sup>1</sup> The 3-year phase in is only applicable to the assumption changes effective July 1, 2020

**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**SECTION V – CONTRIBUTIONS**

Table V-3a shows the allocation of the cost calculation between PEPRA and Non-PEPRA members prior to the phase in, whereas Table V-3b, on the following page, shows the same allocation after the impact of the phase in.

<b>Table V-3a IBEW PEPRA/Non-PEPRA Summary</b>			
	<b>Non-PEPRA</b>	<b>PEPRA</b>	<b>Total</b>
1. Entry Age Normal Cost (Middle of Year)	\$ 1,270,976	\$ 876,727	\$ 2,147,703
2. Covered Payroll (Normal Cost)	\$ 8,163,991	\$ 6,281,698	\$ 14,445,689
3. Normal Cost as a Percent of Covered Payroll: (1) / (2)	15.57%	13.96%	14.87%
4. Expected Employee Contributions as a Percent of Covered Payroll	0.00%	( 7.00%)	( 3.04%)
5. Entry Age Actuarial Liability	\$ 88,817,216	\$ 1,974,093	\$ 90,791,309
6. Actuarial Value of Assets			\$ 63,138,388
7. Unfunded Actuarial Liability: (5) - (6)			\$ 27,652,921
8. Unfunded Actuarial Liability Amortization at Middle of Year as a Level Percentage of Payroll	\$ 1,506,354	\$ 1,127,082	\$ 2,633,436
9. Expected Administrative Expenses	\$ 137,283	\$ 102,717	\$ 240,000
10. Expected Employee Contributions	\$ 0	\$ (439,719)	\$ (439,719)
11. Employer Contribution Payable in Monthly Installments: (1) + (8) + (9) + (10)	\$ 2,914,613	\$ 1,666,807	\$ 4,581,420
12. Covered Payroll (UAL Amort and Expenses)	\$ 8,720,649	\$ 6,524,947	\$ 15,245,596
13. Total Contribution as a Percent of Covered Payroll: [(1) + (10)] / (2) + [(8) + (9)] / (12)	34.41%	25.80%	30.67%

**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**SECTION V – CONTRIBUTIONS**

<b>Table V-3b IBEW PEPRA/Non-PEPRA Summary with Phase In</b>			
	<b>Non-PEPRA</b>	<b>PEPRA</b>	<b>Total</b>
1. Entry Age Normal Cost (Middle of Year)	\$ 1,270,976	\$ 876,727	\$ 2,147,703
2. Covered Payroll (Normal Cost)	\$ 8,163,991	\$ 6,281,698	\$ 14,445,689
3. Normal Cost as a Percent of Covered Payroll: (1) / (2)	15.57%	13.96%	14.87%
4. Expected Employee Contributions as a Percent of Covered Payroll	0.00%	( 7.00%)	( 3.04%)
5. Entry Age Actuarial Liability	\$ 88,817,216	\$ 1,974,093	\$ 90,791,309
6. Actuarial Value of Assets			\$ 63,138,388
7. Unfunded Actuarial Liability: (5) - (6)			\$ 27,652,921
8. Unfunded Actuarial Liability Amortization at Middle of Year as a Level Percentage of Payroll	\$ 1,327,258	\$ 993,079	\$ 2,320,337
9. Expected Administrative Expenses	\$ 137,283	\$ 102,717	\$ 240,000
10. Expected Employee Contributions	\$ -	\$ (439,719)	\$ (439,719)
11. Employer Contribution Payable in Monthly Installments: (1) + (8) + (9) + (10)	\$ 2,735,517	\$ 1,532,804	\$ 4,268,321
12. Covered Payroll (UAL Amort and Expenses)	\$ 8,720,649	\$ 6,524,947	\$ 15,245,596
13. Total Phased-in Contribution as a Percent of Covered Payroll: [(1) + (10)] / (2) + [(8) + (9)] / (12)	32.36%	23.75%	28.62%

**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**APPENDIX A – MEMBERSHIP INFORMATION**

The data for this valuation was provided by the Sacramento Regional District Transit staff as of July 1, 2020.

<b>Active Participants</b>	<b>July 1, 2019</b>	<b>July 1, 2020</b>
Number	209	223
Number Vested	129	121
Average Age	49.1	48.5
Average Service	10.6	9.7
Average Pay	\$62,467	\$62,991
<b>Retired</b>		
Number	144	155
Average Age	67.6	68.1
Average Annual Benefit	\$27,084	\$27,718
<b>Beneficiaries</b>		
Number	16	16
Average Age	67.9	66.4
Average Annual Benefit	\$10,572	\$12,069
<b>Disabled</b>		
Number	14	14
Average Age	66.1	67.1
Average Annual Benefit	\$15,737	\$15,737
<b>Term Vested</b>		
Number	18	19
Average Age	45.8	46.6
Average Annual Benefit	\$8,103	\$8,550
<b>Transferred</b>		
Number	37	34
Average Age	52.0	52.8
Average Annual Benefit	\$20,663	\$20,322
<b>Term Non-Vested / Due Refund</b>		
Number	3	4
Average Estimated Refund	\$2,729	\$1,996

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

**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**APPENDIX A – MEMBERSHIP INFORMATION**

<b>Changes in Plan Membership: IBEW</b>								
	<b>Actives</b>	<b>Actives with Transfer Service</b>	<b>Non-Vested Terms with Funds on Account</b>	<b>Vested Terminations</b>	<b>Disabled</b>	<b>Retired</b>	<b>Beneficiaries<sup>1</sup></b>	<b>Total</b>
July 1, 2019	209	37	3	18	14	144	16	441
New Entrants	38	0	0	0	0	0	0	38
Rehires	0	0	0	0	0	0	0	0
Disabilities	0	0	0	0	0	0	0	0
Retirements	(11)	0	0	0	0	11	0	0
Vested Terminations	0	(1)	0	1	0	0	0	0
Died, With Beneficiaries' Benefit Payable, QDRO	0	(1)	0	0	0	0	1	0
Transfers	(2)	4	0	0	0	0	0	2
Died, Without Beneficiary, and Other Terminations	(4)	0	4	0	0	(2)	0	(2)
Transfer Retirement	0	(3)	0	0	0	2	0	(1)
Beneficiary Deaths	0	0	0	0	0	0	(1)	(1)
Funds Transferred	0	0	0	0	0	0	0	0
Refund of Contributions, Not entitled to further	(7)	(1)	(3)	0	0	0	0	(11)
Data Corrections	0	0	0	0	0	0	0	0
July 1, 2020	<b>223</b>	<b>35</b>	<b>4</b>	<b>19</b>	<b>14</b>	<b>155</b>	<b>16</b>	<b>466</b>

<sup>1</sup> Beneficiary counts do not include DROs where benefits are paid over the member's lifetime.

**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**APPENDIX A – MEMBERSHIP INFORMATION**

Age / Service Distribution of IBEW Active Participants As of July 1, 2020													
Age	Service												
	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	2	0	0	0	0	0	0	0	0	0	0	2
25 to 29	4	2	2	5	0	0	0	0	0	0	0	0	13
30 to 34	6	3	4	0	4	6	0	0	0	0	0	0	23
35 to 39	5	1	1	4	2	5	0	0	0	0	0	0	18
40 to 44	7	3	3	0	6	6	1	6	0	0	0	0	32
45 to 49	3	1	2	4	1	4	3	4	0	0	0	0	22
50 to 54	2	2	1	2	1	5	8	4	2	1	3	0	31
55 to 59	5	2	2	2	0	7	4	7	5	5	1	0	40
60 to 64	2	0	4	2	0	2	1	10	4	4	2	0	31
65 to 69	0	0	0	0	0	0	3	3	0	0	3	0	9
70 & up	0	0	0	0	0	0	0	0	1	0	1	0	2
<b>Total</b>	<b>34</b>	<b>16</b>	<b>19</b>	<b>19</b>	<b>14</b>	<b>35</b>	<b>20</b>	<b>34</b>	<b>12</b>	<b>10</b>	<b>10</b>	<b>0</b>	<b>223</b>

Average Age = 48.5

Average Service = 9.7

**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**APPENDIX A – MEMBERSHIP INFORMATION**

Payroll Distribution of IBEW Active Participants As of July 1, 2020														
Age	Service												Total	
	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		
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 to 24	0	39,297	0	0	0	0	0	0	0	0	0	0	0	39,297
25 to 29	42,392	66,181	55,861	55,462	0	0	0	0	0	0	0	0	0	53,151
30 to 34	53,860	40,323	51,013	0	61,136	63,424	0	0	0	0	0	0	0	55,360
35 to 39	54,511	42,957	48,851	54,265	51,125	73,208	0	0	0	0	0	0	0	58,317
40 to 44	41,140	38,686	71,529	0	58,219	60,190	75,840	63,039	0	0	0	0	0	55,724
45 to 49	66,729	54,709	51,153	61,992	71,286	55,952	51,375	59,375	0	0	0	0	0	58,722
50 to 54	45,356	58,186	54,972	58,233	80,701	70,842	67,044	54,279	74,543	67,139	82,981	0	0	65,551
55 to 59	53,054	61,623	47,422	62,092	0	73,238	64,907	70,020	92,146	79,726	70,168	0	0	69,988
60 to 64	50,284	0	54,545	51,900	0	81,167	80,058	66,783	103,107	61,242	73,615	0	0	68,948
65 to 69	0	0	0	0	0	0	80,379	87,836	0	0	94,194	0	0	87,470
70 & up	0	0	0	0	0	0	0	0	60,101	0	63,190	0	0	61,646
<b>Total</b>	<b>50,294</b>	<b>49,079</b>	<b>55,238</b>	<b>57,199</b>	<b>60,578</b>	<b>67,450</b>	<b>67,357</b>	<b>66,304</b>	<b>90,195</b>	<b>71,074</b>	<b>81,211</b>	<b>0</b>	<b>0</b>	<b>62,991</b>

Average Salary = \$ 62,991

**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**APPENDIX A – MEMBERSHIP INFORMATION**

**Service Retired Participants and  
Beneficiaries**

Age	Number	Average Monthly Benefit
30-34	0	\$0
35-39	2	\$467
40-44	0	\$0
45-49	0	\$0
50-54	2	\$1,950
55-59	17	\$2,002
60-64	25	\$2,260
65-69	70	\$2,308
70-74	33	\$2,442
75-79	12	\$1,596
80-84	4	\$1,360
85-89	4	\$2,503
90-94	2	\$996
95+	0	\$0
<b>Total</b>	<b>171</b>	<b>\$2,188</b>

**Disabled Participants**

Age	Number	Average Monthly Benefit
30-34	0	\$0
35-39	0	\$0
40-44	0	\$0
45-49	0	\$0
50-54	1	\$1,107
55-59	2	\$1,817
60-64	3	\$1,325
65-69	2	\$906
70-74	4	\$1,490
75-79	2	\$935
80-84	0	\$0
85-89	0	\$0
90+	0	\$0
<b>All Ages</b>	<b>14</b>	<b>\$1,311</b>

**Terminated Vested Participants**

Age	Number	Average Monthly Benefit
25-29	0	\$0
30-34	0	\$0
35-39	2	\$358
40-44	7	\$862
45-49	3	\$692
50-54	6	\$733
55-59	1	\$307
60-64	0	\$0
65-69	0	\$0
70-74	0	\$0
75-79	0	\$0
80-84	0	\$0
85-89	0	\$0
90+	0	\$0
<b>All Ages</b>	<b>19</b>	<b>\$712</b>

**Tranferred Participants**

Age	Number	Average Monthly Benefit
25-29	0	\$0
30-34	0	\$0
35-39	1	\$1,799
40-44	1	\$50
45-49	9	\$1,277
50-54	11	\$1,430
55-59	9	\$2,271
60-64	2	\$2,045
65-69	1	\$3,979
70-74	0	\$0
75-79	0	\$0
80-84	0	\$0
85-89	0	\$0
90+	0	\$0
<b>All Ages</b>	<b>34</b>	<b>\$1,693</b>



**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**APPENDIX B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS**

The assumptions and methods used in the actuarial valuation as of July 1, 2020 are:

**Actuarial Method**

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.

The excess of the Actuarial Liability over Plan assets is the Unfunded Actuarial Liability. As of July 1, 2007, the amortization period was reset to a 30-year period, decreasing two years with each valuation until a 20-year amortization period was achieved, at which point the amortization period was reduced by one year annually. The amortization period as of July 1, 2020 is 12 years for the UAL determined as of July 1, 2019. This valuation reflects a change to 20-year layered amortization for UAL changes after 2019, including 20-year schedules for the assumptions incorporated as part of the 2020 experience study and the 2020 Actuarial Gain/(Loss). Future changes in the UAL will also be amortized over closed 20-year schedules.

Additionally, the Board is considering a three-year phase in of the amortization payment for the increase in the UAL due to the 2020 experience study changes.

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.

**Modeling**

Cheiron utilizes ProVal actuarial valuation software leased from Winklevoss Technologies (WinTech) to calculate liabilities and project benefit payments. We have relied on WinTech as the developer of ProVal. We have a basic understanding of ProVal and have used ProVal in accordance with its original intended purpose. We have not identified any material inconsistencies in assumptions or output of ProVal that would affect this valuation.

Deterministic and stochastic projections in this valuation report were developed using R-scan, a proprietary tool used to illustrate the impact of changes in assumptions, methods, plan provisions, or actual experience (particularly investment experience) on the future financial status of the Plan. R-scan uses standard roll-forward techniques that implicitly assume a stable active population. Because R-scan does not automatically capture how changes in one variable affect all other variables, some scenarios may not be consistent.

**APPENDIX B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS**

**Actuarial Assumptions**

The actuarial assumptions were developed based on an experience study covering the period from July 1, 2015 through June 30, 2020.

**1. Rate of Return**

The annual rate of return on all Plan assets is assumed to be 6.75% for the current valuation 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 2.75% per year.

**3. Increases in Pensionable Payroll / Amortization Payments**

Overall pensionable compensation (used in the calculation of amortization payments) is expected to grow by 2.75% per year.

**4. Plan Expenses**

Administrative expenses are assumed to be \$240,000 for Fiscal Year 2021-22 and are added directly to the actuarial cost calculation. The expenses are assumed to increase with CPI in future years.

**5. Increases in Pay**

Assumed pay increases for active Participants consist of increases due to wage inflation and those due to longevity and promotion.

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

<b>Salary Increases</b>			
<b>Service</b>	<b>Base</b>	<b>Longevity &amp; Promotion</b>	<b>Total (Compound)</b>
0	2.75%	13.00%	16.11%
1	2.75%	11.00%	14.05%
2	2.75%	5.00%	7.89%
3	2.75%	2.50%	5.32%
4-6	2.75%	1.50%	4.29%
7+	2.75%	0.75%	3.52%

**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**APPENDIX B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS**

**6. Family Composition**

85% of participants are assumed to be married. Males are assumed to be three years older than their spouses, and females are assumed to be three years younger than their spouses. This assumption is applied to active members, as well as retired members with a joint and survivor benefit where the data is missing the beneficiary date of birth.

**7. 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.

**8. Missed Pay Periods**

A 2.62% load is applied to the normal cost for IBEW PEPRA members to adjust for the missed pay periods in which service is credited yet no contributions are made by the member.

**9. Employment Status**

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

**10. 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*	
Years of Service	Rate
0-4	8.00%
5-9	5.00%
10-14	3.00%
15-19	2.00%
20+	0.50%

\* 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).

**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**APPENDIX B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS**

**11. Rates of Disability**

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

Rates of Disability		
Age	Male	Female
22	0.15%	0.00%
27	0.20%	0.15%
32	0.25%	0.20%
37	0.30%	0.28%
42	0.35%	0.43%
47	0.40%	0.67%
52	0.45%	1.18%
57	0.50%	2.04%
62	0.55%	2.87%

**12. Rates of Mortality for Active Healthy Lives**

Pri-2012 Blue Collar Healthy Employee Headcount-weighted mortality rates for male ATU and IBEW members, and the Cheiron ATU Employee mortality rates adjusted by 105% for female ATU and IBEW members, with generational improvements using MP-2020 from the base year of the tables (2012 and 2016, respectively).

**13. Rates of Mortality for Disabled Retirees**

Cheiron ATU Disabled Annuitant mortality for ATU and IBEW members, with no adjustment, with generational improvements using Scale MP-2020 from 2016.

**14. Retired Member and Beneficiary Mortality**

Cheiron ATU Healthy Annuitant mortality for ATU and IBEW members, adjusted by 95% for males and 105% for females, with generational improvements using Scale MP-2020 from 2016.

**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**APPENDIX B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS**

**15. Rates of Retirement**

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

Rates of Retirement*				
Age	Years of Service			
	5-9	10-24	25-29	30+
Under 55	0.00%	0.00%	2.00%	2.00%
55-59	2.30%	2.30%	2.30%	10.00%
60-64	4.00%	11.70%	11.70%	20.00%
65	4.00%	32.00%	32.00%	32.00%
66-69	4.00%	25.00%	25.00%	32.00%
70+	100.00%	100.00%	100.00%	100.00%

\*PEPRA members are assumed to begin retiring at age 52, with at least five years of service.

**16. Changes Since Last Valuation**

Demographic assumptions (termination rates, retirement rates, disability rates, mortality rates and merit salary increases) were updated to reflect the most recent experience study. Refer to the prior year valuation report for prior year assumptions.

The assumed rate of return was changed from 7.25% to 6.75%.

The assumed rate of wage inflation was changed from 3.00% to 2.75%.

The assumed rate of cost of living inflation (CPI) was changed from 3.00% to 2.50%

Assumed administrative expenses were updated to \$240,000 for FY 2021-22, increasing by the CPI annually.

## 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 last 48 months of compensation are used in the calculation.

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.

For IBEW members, service includes time with the District or predecessor companies immediately prior to September 16, 1974 and subsequent to hire. Service is measured in completed quarters.

### 2. Participation

Eligibility:

Any person employed by the District who is a member IBEW Local 1245 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 November 1, 2005, an IBEW Participant is eligible for normal service retirement upon attaining age 55 and completing 10 or more years of service. Effective November 1, 2005, IBEW members are eligible to retire upon reaching 25 years of service. Effective November 1, 2006, an IBEW Participant is eligible for normal service or disability retirement upon attaining age 55 and completing five or more years of service.

## APPENDIX C – SUMMARY OF PLAN PROVISIONS

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 on February 28, 1993 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 retirements and terminations on and after July 1, 2008, the percentage is equal to:

- 2.0%, if the member retires after age 55 and prior to age 60 and prior to 30 years of service,
- 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. 10 years of service is required to qualify for disability. For IBEW members with active service on or after November 1, 2006 (including PEPRA members), only five years of service is needed.

**Benefit Amount:** For IBEW 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. 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

## APPENDIX C – SUMMARY OF PLAN PROVISIONS

attained had employment continued until age 62, excluding PEPRA members.

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.

### 5. Pre-Retirement Death Benefit

Eligibility: A Participant's surviving spouse or Domestic Partner is eligible for a pre-retirement death benefit, if the Participant has completed 10 years of service with the District. Effective November 1, 2006, an IBEW Participant's surviving spouse or Domestic Partner is eligible for a pre-retirement death benefit if the Participant has completed five years of service with the District, including PEPRA members.

Benefit Amount: The pre-retirement death benefit is the actuarial equivalent of the Normal Retirement Benefit, as if the member retired on the day before his/her death. If the member is not eligible to retire on the day before his/her death, but is vested in his/her benefit, the benefit shall be calculated using a 1% multiplier for PEPRA members and a 2% for all other members.

Form of Benefit: The death benefit begins when the Participant dies and continues for the life of the surviving spouse or Domestic Partner. No optional form of benefit may be elected. No cost-of-living increases are payable.

### 6. Termination Benefit

Eligibility: An IBEW Participant is eligible for a termination benefit after earning five years of service. The terminated Participant will be eligible to commence benefits at age 62 (or as early as age 55 if eligible).

PEPRA members are eligible for a termination benefit after earning five years of service, commencing as early as age 52.

Benefit Amount: The benefit payable to a vested terminated Participant is equal to the Normal Retirement Benefit, based on the provisions of the Plan in effect on the date the Participant terminated employment.

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.



**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**APPENDIX C – SUMMARY OF PLAN PROVISIONS**

Form of Benefit: The termination 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.

**7. Reciprocity Benefit**

Eligibility: A Participant who transfers from this Plan to the RT Salaried 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 Salaried 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**

IBEW members hired or rehired by the District on or after January 1, 2015 will contribute 1.5% of pay after one year of service, 3.0% of pay after two years of service, 4.5% of pay after three years of service, and 50% of normal cost up to 5% of pay after four years of service. Effective April 1, 2018, IBEW members hired or rehired by the District on or after January 1, 2015 will contribute half of the normal cost of the PEPRA 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 6.00% (1/2 of 12.12%, rounded to the nearest quarter) of payroll. However the normal cost rate for the PEPRA members as of the July 1, 2020 valuation is 13.96%, and since the change is more than 1%, the rate for the following fiscal year increases to 7.00% (1/2 of 13.96%, rounded to the nearest quarter) of payroll.

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 that 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.

### 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.

**APPENDIX D – GLOSSARY**

**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 that is allocated to a valuation year by the actuarial cost method.

**13. Projected Benefits**

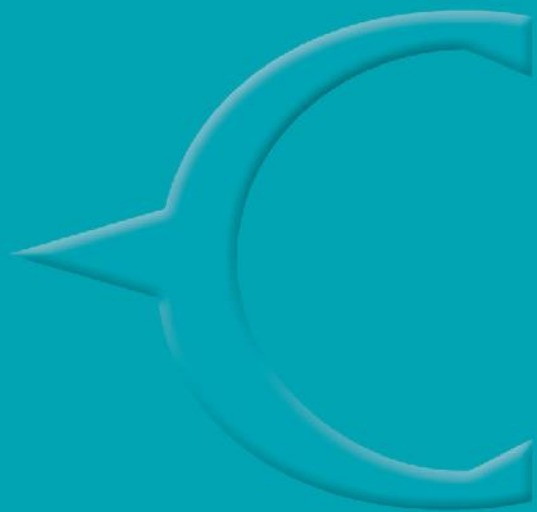
Those pension plan benefit amounts which are expected to be paid in the future under a particular set of actuarial assumptions, taking into account such items as increases in future compensation and service credits.

**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.



*Classic Values, Innovative Advice*



**Retirement Plan for  
Sacramento Regional  
Transit District Employees  
IBEW Local 1245**

**Actuarial Valuation Report  
as of July 1, 2020**

**Produced by Cheiron**

**April 2021**

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April 29, 2021

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

Dear Members of the Board:

At your request, we have conducted an actuarial valuation of the Retirement Plan for Sacramento Regional Transit District Employees (IBEW Plan) (SacRT, the Fund, the Plan) as of July 1, 2020. 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 Board and the auditors in preparing financial reports in accordance with applicable law and accounting requirements.

This report was prepared solely for the Retirement Board 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 other user.

This report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices and our understanding of the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board as well as applicable laws and regulations. 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



Graham A. Schmidt, ASA, FCA, MAAA, EA  
Consulting Actuary



Anne D. Harper, FSA, MAAA, EA  
Principal Consulting Actuary

**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES: IBEW  
PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**FOREWORD**

Cheiron has performed the actuarial valuation of the Retirement Plan for Sacramento Regional Transit District Employees (IBEW Plan) as of July 1, 2020. 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.
- In Section II, **Disclosures Related to Risk**, we review the primary risks facing the District, and quantify these using various risk and maturity measures.
- The **Main Body** of the report presents details on the Plan’s
  - Section III – Assets
  - Section IV – Liabilities
  - Section V – 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.



**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**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,
- Employer and member contribution rates for Plan Year 2021-2022, and
- An assessment and disclosure of key risks.

Prior to July 1, 2016, a combined valuation report was issued for the Retirement Plans for Sacramento Regional Transit District Employees ATU Local 256 and IBEW Local 1245. As per the Board’s direction, beginning with the July 1, 2016 valuation, separate reports are issued for the ATU and IBEW plans.

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, 2020 provided to the Board in September 2020.

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) changes in Plan cost, (D) an examination of the historical trends, and (E) the projected financial outlook for the Plan.

**A. Valuation Basis**

This valuation determines the employer and PEPRA member contributions for the plan year.

The Plan’s funding policy is for the District to contribute an amount equal to the sum of:

- The normal cost under the Entry Age Normal Cost Method, net of any contributions by the members,
- 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 in assumptions based on the experience study completed April 2021. Additionally, there has been a proposed change in the amortization funding policy as presented at the March 10, 2021 Board meeting.

## SECTION I – EXECUTIVE SUMMARY

### B. Key Findings of this Valuation

The key results of the July 1, 2020 actuarial valuation are as follows:

- The actuarially determined employer contribution rate increased from 26.66% of payroll last year to 29.46% of payroll for the current valuation.
- The Plan's funded ratio, the ratio of actuarial assets over Actuarial Liability, decreased from 75.5% as of July 1, 2019 to 71.1% as of July 1, 2020. As a point of comparison, a funding ratio of 61.7% or more is required just to fund the liabilities of the inactive members: retired, disabled, terminated with vested benefits, and their beneficiaries. This ratio 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 \$19,786,977 to \$25,659,271 as of July 1, 2020. This increase in the UAL was primarily due to the assumption changes adopted based on the experience study and losses on the actuarial value of assets.
- During the year ended June 30, 2020, the return on Plan assets was 1.81% on a market value basis net of investment expenses, as compared to the 7.25% assumption. This resulted in a market value loss on investments of \$3,247,784. The Actuarial Value of Assets recognizes 20% of the annual difference between the expected and actual return on the Market Value of Assets (MVA). This method of smoothing the asset gains and losses returned 4.93% on the smoothed value of assets, an actuarial asset loss of \$1,405,467.
- The Actuarial Value of Assets is currently 104.6% of the market value. Since actuarial assets are above market assets, there are unrecognized investment losses (approximately \$2.8 million, primarily due to the FYE 2020 asset experience) that will be reflected in the smoothed value in future years.
- The Plan experienced a net liability gain of \$8,970, with gains and losses on the experience offsetting each other. The Plan experienced a \$85,054 loss from expenses being more than expected, and a loss of \$277,022 from contributions being less than expected. Combining the gain on liabilities and losses on assets, expenses and contributions the Plan experienced a total loss of \$1,758,572.
- The Plan experienced an increase in the liabilities because of assumption changes proposed as part of the experience study (\$4,736,171). The assumption changes with the biggest impact were changes in the discount rate (lowering it from 7.25% to 7.00%), followed by those affecting the salary scale and load on terminal payments.
- The actuarially determined contribution is based on the proposed amortization funding policy to use 20-year layered amortization as a level percentage of payroll for changes in the UAL occurring after July 1, 2019. No change was made to the payment schedule for

**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**SECTION I – EXECUTIVE SUMMARY**

the existing UAL as of July 1, 2019, which has 12 years remaining as of the current valuation.

- There were 38 new hires and rehires since July 1, 2019 and the total active population increased by 14. Total projected payroll increased 10.99% from \$13,735,701 to \$15,245,596 for 2020-2021.
- The impact of PEPRA continued to lower the employer cost. As more PEPRA members are hired, the average normal cost rate declines, because PEPRA members have lower benefits than the non-PEPRA members do. In addition, the PEPRA member contribution rate increased this year (from 6.00% to 6.75%), due to the proposed assumption changes and reduction in the discount rate.

**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**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.

Table I-1				
Summary of Principal Plan Results				
Valuation Date	July 1, 2019	July 1, 2020	% Change	
<b><u>Participant Counts</u></b>				
Active Participants	209	223	6.70%	
Participants Receiving a Benefit	174	185	6.32%	
Terminated Vested Participants	18	19	5.56%	
Transferred Participants	37	34	-8.11%	
Non-Vested Participants Due Refund	<u>3</u>	<u>4</u>	33.33%	
<b>Total</b>	<b>441</b>	<b>465</b>	<b>5.44%</b>	
Annual Pay of Active Members	\$ 13,735,701	\$ 15,245,596	10.99%	
<b><u>Assets and Liabilities</u></b>				
Actuarial Liability (AL)	\$ 80,791,046	\$ 88,797,659	9.91%	
Actuarial Value of Assets (AVA)	<u>61,004,069</u>	<u>63,138,388</u>	3.50%	
Unfunded Actuarial Liability (UAL)	\$ 19,786,977	\$ 25,659,271	29.68%	
Funded Ratio (AVA)	75.5%	71.1%	-4.40%	
Market Value of Assets (MVA)	\$ 60,149,108	\$ 60,379,125	0.38%	
Funded Ratio (MVA)	74.5%	68.0%	-6.45%	
Inactive Funded Ratio	60.9%	61.7%	0.79%	
<b><u>Contributions</u></b>				
Employer Contribution Payable Monthly	\$ \$3,432,546	\$ 4,399,793	28.18%	
Employer Contribution as a Percentage of Payroll	26.66%	29.46%	2.80%	

**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**SECTION I – EXECUTIVE SUMMARY**

**C. Changes in Contributions**

Table I-2 summarizes the impact of actuarial experience on contributions.

Table I-2 Employer Contribution Reconciliation				
Item	Total	Normal Cost	UAL Amortization	Admin Expense
FYE 2021 Employer Contribution Rate	26.66%	11.21%	14.46%	0.99%
Change due to asset losses	0.74%	0.00%	0.74%	0.00%
Change due to PEPRA	-0.79%	-0.79%	0.00%	0.00%
Change due to demographic losses	0.09%	0.11%	-0.01%	-0.01%
Change due to amortization payroll	-0.72%	0.00%	-0.68%	-0.04%
Change due to contribution/expense shortfall	0.19%	0.00%	0.19%	0.00%
Change due to assumption changes	<u>3.29%</u>	<u>1.02%</u>	<u>1.64%</u>	<u>0.63%</u>
FYE 2022 Employer Contribution Rate	29.46%	11.55%	16.34%	1.57%

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

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

The actuarial return on assets was 4.93%, which is less than the assumed rate of 7.25%. This resulted in an increase in the contribution rate by 0.74% of payroll.

The Market Value of Assets is lower than the actuarial value; there are approximately \$2.8 million in deferred asset losses.

- Demographic experience (including PEPRA new hires) resulted in a net decrease in cost.

The demographic experience of the Plan – rates of retirement, death, disability, and termination – was close to that predicted by the actuarial assumptions in aggregate. The normal cost increased slightly as a result of changes in demographics within tiers.

However, 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. The impact of PEPRA resulted in a decrease in the employer normal cost rate of 0.79% of payroll.

The net impact on the contribution rate from changes in demographics was a decrease of 0.70% of payroll.

**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**SECTION I – EXECUTIVE SUMMARY**

- Overall payroll growth was greater than expected.

Greater than expected growth in the projected payroll decreased the contribution rate by 0.72% of pay, since it results in the Plan's Unfunded Actuarial Liability and administrative expenses being spread over a larger payroll base.

- Contributions fell slightly short of the actuarially determined cost.

Actual contributions were less than the total actuarially determined cost (including expenses), which resulted in an increase in the contribution rate by 0.19%. This was primarily due to the 12-month delay in the implementation of the contribution rates offset by a higher payroll than expected.

- Assumptions were changed.

Demographic assumptions – rates of retirement, death, disability, and termination – as well as economic assumptions were updated to reflect the most recent experience study. The assumed rate of return was reduced from 7.25% to 7.00%. The proposed assumptions from the experience study result in an increase in the contribution rate by 3.29%.

The current valuation also includes a proposed change to the funding policy to amortize changes in the UAL that occur after July 1, 2019 over individual closed 20-year periods as a percentage of pay – referred to as layered amortization. As there is no change to the amortization period for UAL from the prior valuation (with a remaining period of 12 years), this change has no impact on the payment schedule for the existing UAL. If adopted, the change to the funding policy will decrease the expected volatility in the employer contributions, since future UAL changes will no longer be amortized over a short, declining period.

**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

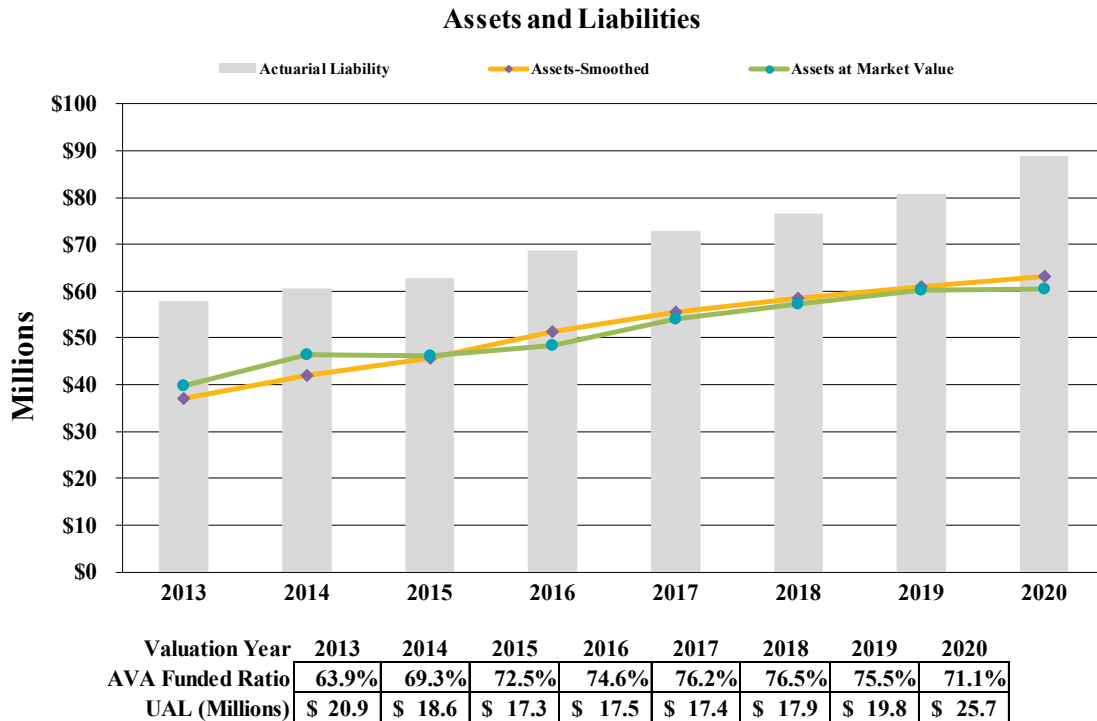
**SECTION I – EXECUTIVE SUMMARY**

**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.

**Assets and Liabilities**

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 is the ratio of the Actuarial Value of Assets to the Actuarial Liability (the funded ratio). The funded ratio increased from 63.9% in 2013 to 75.5% in 2019, primarily as a result of the recovery in the investment markets and contributions made to the plan. The reduction in the funded ratio in 2020 is a result of assumption changes and investment losses. Prior to 2013, the valuation reports did not report a separate funded ratio or unfunded liability for the ATU/IBEW plans.



RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
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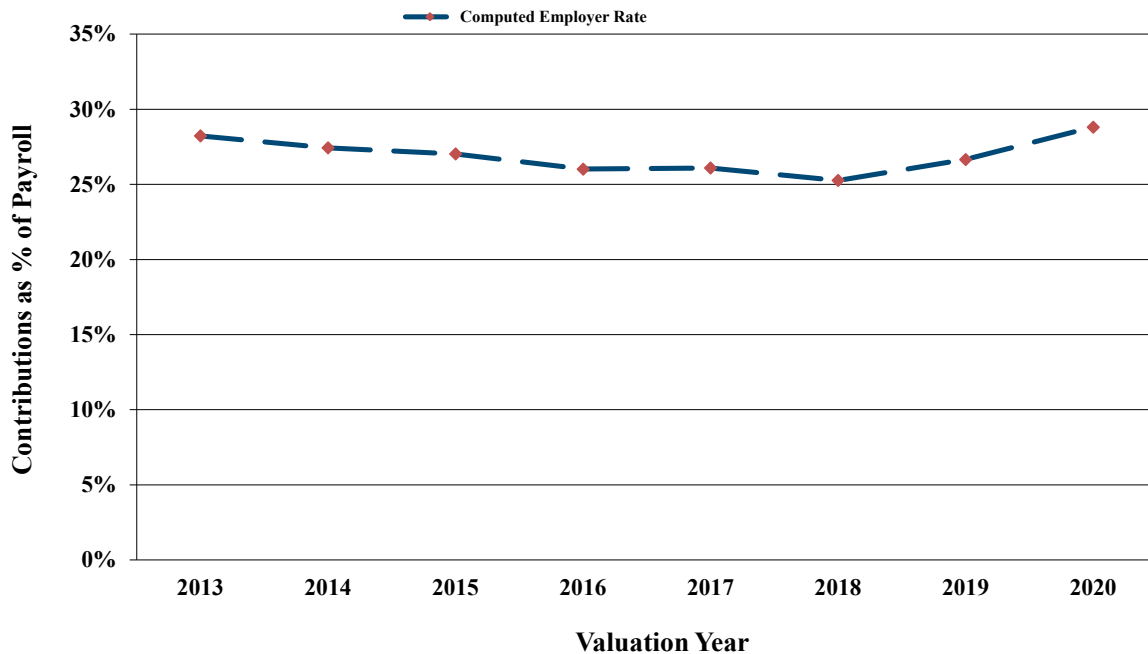
SECTION I – EXECUTIVE SUMMARY

**Contribution Trends**

In the chart, we present the Plan’s historical actuarially determined contribution rates (excluding the impact of any phase-in of assumption changes). After a period of steady and declining rates, contribution rates increased in 2019 due to investment losses and larger than anticipated salary increases for continuing actives and IBEW transferred participants currently active in AFSC and MCEG. The contribution rate increased in 2020 primarily due to the assumption changes included as part of the recent experience study.

Prior to 2013, the valuation reports did not include a separate contribution rate for the ATU/IBEW plans.

Sacramento Regional Transit District Employees: IBEW



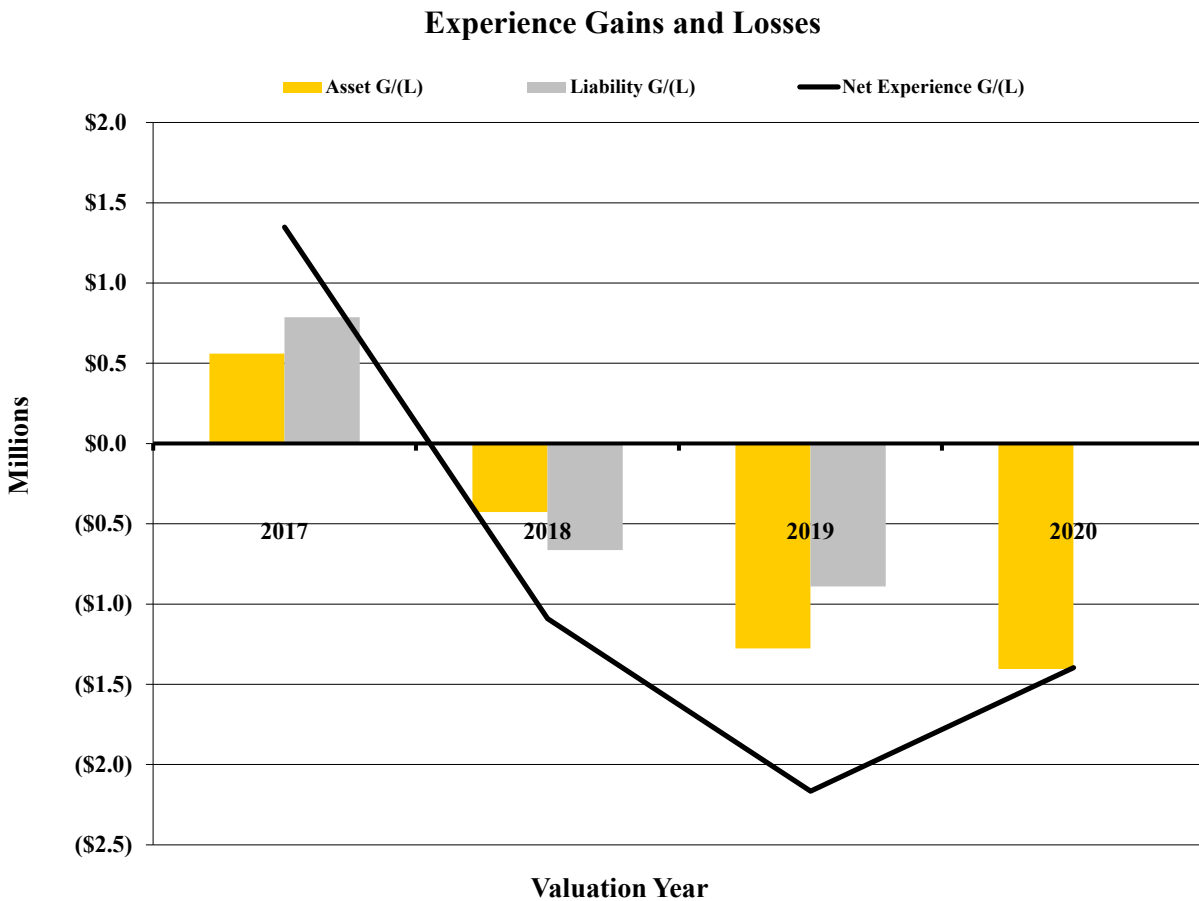


RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020

SECTION I – EXECUTIVE SUMMARY

**Gains and Losses**

The chart below presents the pattern of annual gains and losses for the overall Plan, broken into the investment and liability components. Only four years are shown, since prior to 2017 the gain/loss analysis was only performed on a combined basis for ATU and IBEW. 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.



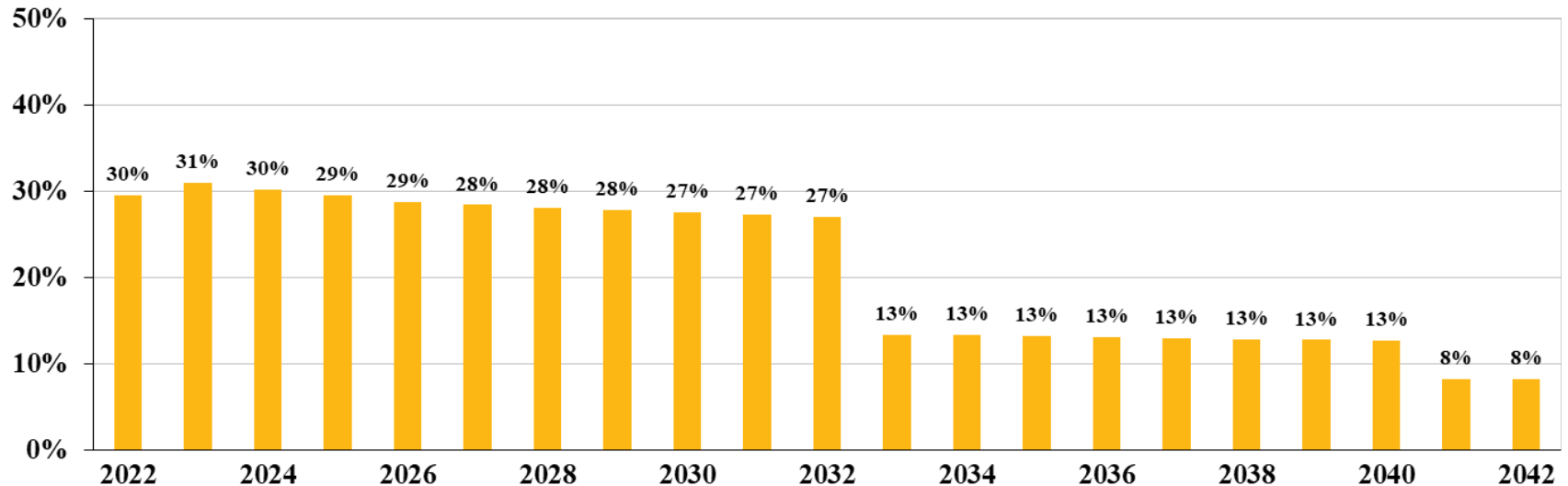
RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020

SECTION I – EXECUTIVE SUMMARY

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, 2020 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 7.00% assumption each year, which is clearly an impossibility. We have also assumed future salary increases of 3.00% per year.

**Projection of Employer Contributions 7.00% return each year**



The contribution rate graph shows that the District’s contributions are expected to decrease slightly over the next ten years 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 2033, once the existing unfunded liability from the prior valuation is fully amortized.

The dollar actuarial cost for the District will be approximately \$4.6 million in 2021-2022, growing as pay increases to around \$5.7 million in 2031-2032, then dropping significantly the following years when the bulk of the unfunded liability amortization payment

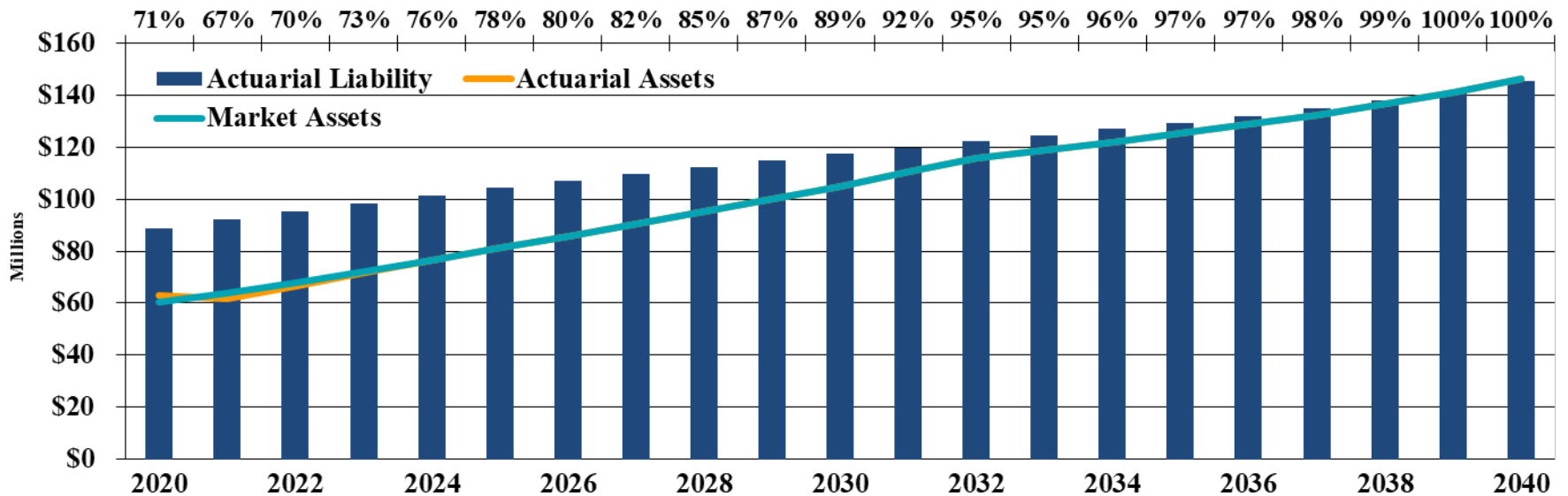
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**SECTION I – EXECUTIVE SUMMARY**

disappears. Note that the graph on the previous page does not forecast any actuarial gains or losses or changes to the assumptions or funding policy.

The following graph shows the projection of assets and liabilities assuming that assets will earn the 7.00% assumption each year during the projection period. The graph shows that the funded status is expected to increase steadily over the next 12 years as the existing unfunded liability from the prior valuation is fully amortized, assuming the actuarial assumptions are achieved. However, as above, it is primarily the actual return on Plan assets that will determine the future funding status and contribution rate to the Plan.

**Projection of Assets and Liabilities 7.00% return each year**



## SECTION II – DISCLOSURES RELATED TO RISK

Actuarial valuations are based on a set of assumptions about future economic and demographic experience. These assumptions represent a reasonable estimate of future experience, but actual future experience will undoubtedly be different and may vary significantly.

Actuarial Standard of Practice (ASOP 51) requires actuaries to identify and assess risks that “may reasonably be anticipated to significantly affect the plan’s future financial condition.” This section of the report is intended to identify the primary risks to the Plan, provide some background information about those risks, and provide an assessment of those risks.

### Identification of Risks

The fundamental risk to a pension plan is that the contributions needed to pay the benefits become unaffordable. Even in the case that the Plan remains affordable, the contributions needed to support the Plan may differ significantly from expectations. While there are a number of factors that could lead to contribution amounts deviating from expectations, we believe the primary risks are:

- Investment risk,
- Assumption change risk,
- Longevity and other demographic risk, and
- Contribution risk.

Other risks that we have not identified may also turn out to be important.

*Investment Risk* is the potential for investment returns to be different than expected. Lower investment returns than anticipated will increase the Unfunded Actuarial Liability necessitating higher contributions in the future unless there are other gains that offset these investment losses. The potential volatility of future investment returns is determined by the Plan’s asset allocation and the affordability of the investment risk is determined by the amount of assets invested relative to the size of the plan sponsor or other contribution base.

*Assumption change risk* is the potential for the environment to change such that future valuation assumptions are different than the current assumptions. For example, declines in interest rates over the last three decades resulted in higher investment returns for fixed-income investments, but lower expected future returns necessitating either a change in investment policy, a reduction in discount rate, or some combination of the two. Assumption change risk is an extension of the other risks identified, but rather than capturing the risk as it is experienced, it captures the cost of recognizing a change in environment when the current assumption is no longer reasonable.

*Longevity and other demographic risks* are the potential for mortality or other demographic experience to be different than expected. Generally, longevity and other demographic risks emerge slowly over time and are often dwarfed by other changes, particularly those due to investment returns.

*Contribution risk* is the potential for actual future contributions to deviate from expected future contributions. There are different sources of contribution risk ranging from the sponsor choosing

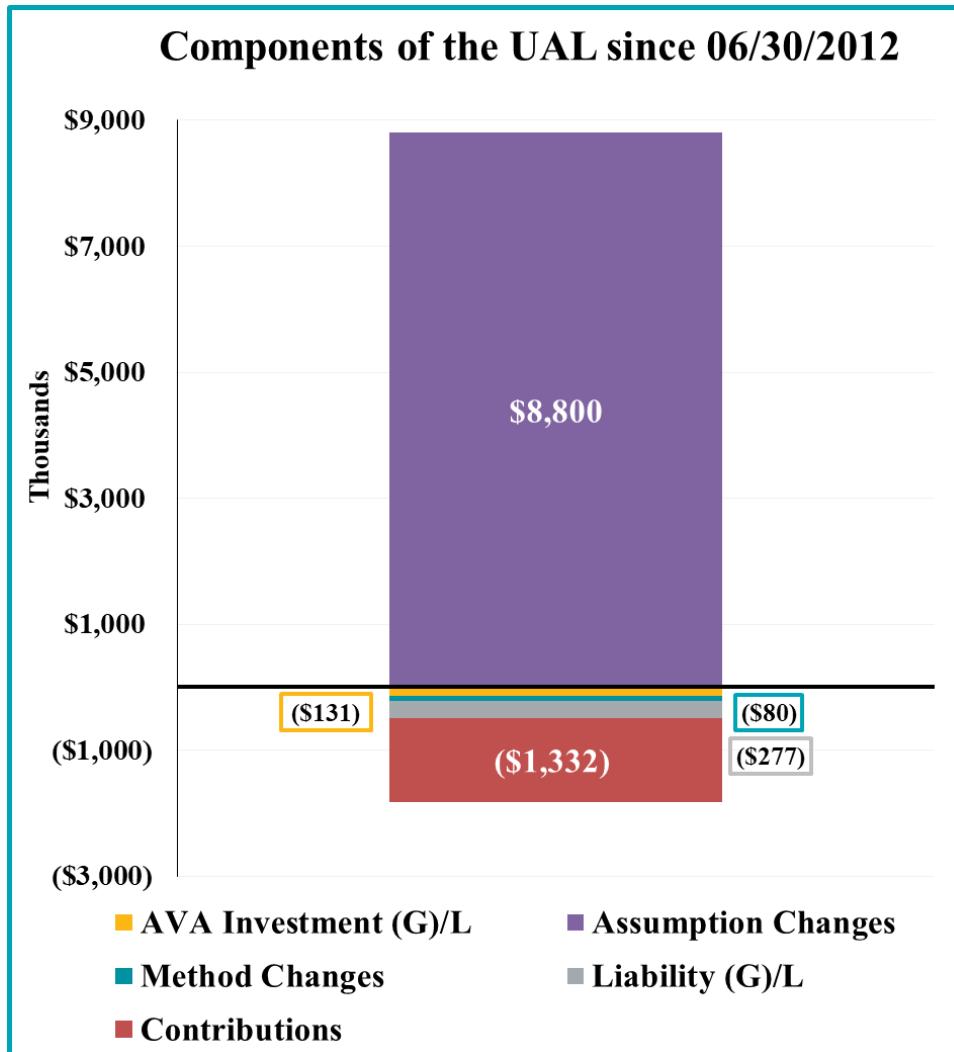
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**SECTION II – DISCLOSURES RELATED TO RISK**

to not make contributions in accordance with the funding policy to material changes in the contribution base (e.g., covered employees, covered payroll, sponsor revenue) that affect the amount of contributions the Plan can collect.

The chart below shows the primary components contributing to the Unfunded Actuarial Liability (UAL) from June 30, 2012 through June 30, 2020. Over the last eight years, the UAL has increased by approximately \$7.0 million. The assumption changes (purple bar) resulting in a total UAL increase of \$8.8 million is the largest source of UAL growth, partially offset by liability gains (\$0.3 million, gray bar) and net investment gains (\$0.1 million, gold bar). Method changes and liability gains/losses have had very little net impact over the past eight years

**Chart II-1**



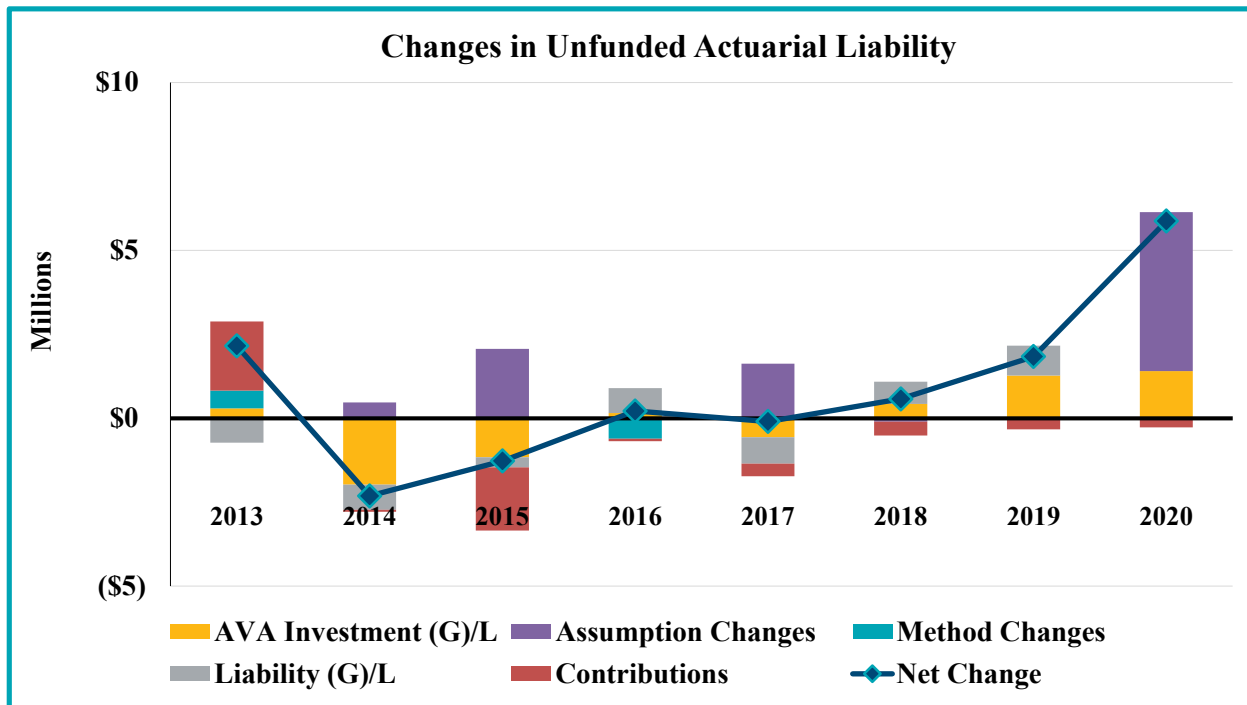
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Each year the UAL is expected to increase for benefits earned in the current year (the normal cost), administrative expenses, and interest on the UAL. This expected increase is referred to as the tread water level. If contributions are greater than the tread water level, the UAL is expected to decrease. Conversely, if contributions are less than the tread water level, the UAL is expected to increase. The amortization policy (as well as the contribution-timing lag) can impact whether or not the contributions exceed the tread water level. Contributions above the “tread-water” level (red bar) have decreased the UAL by \$1.3 million. In addition, method changes (teal bar) have decreased the UAL by \$0.1 million since June 30, 2012.

Chart II-2 below details the annual sources of the UAL change (colored bars) for each valuation year. The net UAL change for each year is represented by the blue diamonds.

**Chart II-2**



The impact of all assumption changes is represented by the purple bars. In 2015 and 2020, there were experience studies performed, which resulted in significant increases in liabilities, primarily due to changes in the salary merit scale, administrative expense assumption, and reductions in the discount rate. The discount rate was also reduced in 2014 and 2017.

On the liability side (gray bars), the System has experienced offsetting gains and losses, decreasing the UAL by approximately \$277 thousand over the eight-year period resulting from participants retiring, terminating, becoming disabled and dying at rates different from the actuarial assumptions as well as unexpected changes in salaries. Most of this type of activity is normal in the course of Plan experience. The Plan will experience actuarial gains and losses over time because we cannot predict exactly how people will behave. When a plan experiences alternating gains and losses that are small compared to the total actuarial liability, the Plan’s actuarial assumptions are reasonable.

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The method changes that decreased the UAL by \$0.1 million include the change in actuarial software and coding associated with the Entry Age Normal cost calculation in 2013 as well as the reallocation of assets between ATU and IBEW in 2016 when the plans began reporting on a separate basis.

While the net investment gains and losses have not been the largest driver of UAL changes over the past eight years, the year-to-year investment volatility can have a large impact on the UAL and is unpredictable. For example, the actuarial investment gain in 2014 was \$2.0 million compared to the \$1.4 million actuarial loss in this valuation.

Table II-1 below shows the same information as Chart II-2, but the annual source of the UAL change is shown numerically.

Table II-1 Unfunded Actuarial Liability (UAL) Change by Source						
Valuation Year	Assumption Changes	Method Changes	Contributions	Investment Experience	Liability Experience	Total UAL Change
2013	0	525,244	2,057,409	298,768	(727,713)	2,153,709
2014	468,791	0	(58,467)	(1,972,330)	(751,011)	(2,313,016)
2015	2,070,326	0	(1,882,740)	(1,162,852)	(294,785)	(1,270,052)
2016	0	(604,762)	(75,499)	157,348	739,723	216,810
2017	1,628,239	0	(376,790)	(560,888)	(787,472)	(96,911)
2018	(103,071)	0	(408,784)	426,841	663,797	578,783
2019	0	0	(327,030)	1,276,660	889,863	1,839,494
2020	4,736,171	0	(260,374)	1,405,467	(8,970)	5,872,294
<b>Total</b>	<b>\$ 8,800,456</b>	<b>\$ (79,518)</b>	<b>\$ (1,332,275)</b>	<b>\$ (130,986)</b>	<b>\$ (276,567)</b>	<b>\$ 6,981,111</b>

**SECTION II – DISCLOSURES RELATED TO RISK**

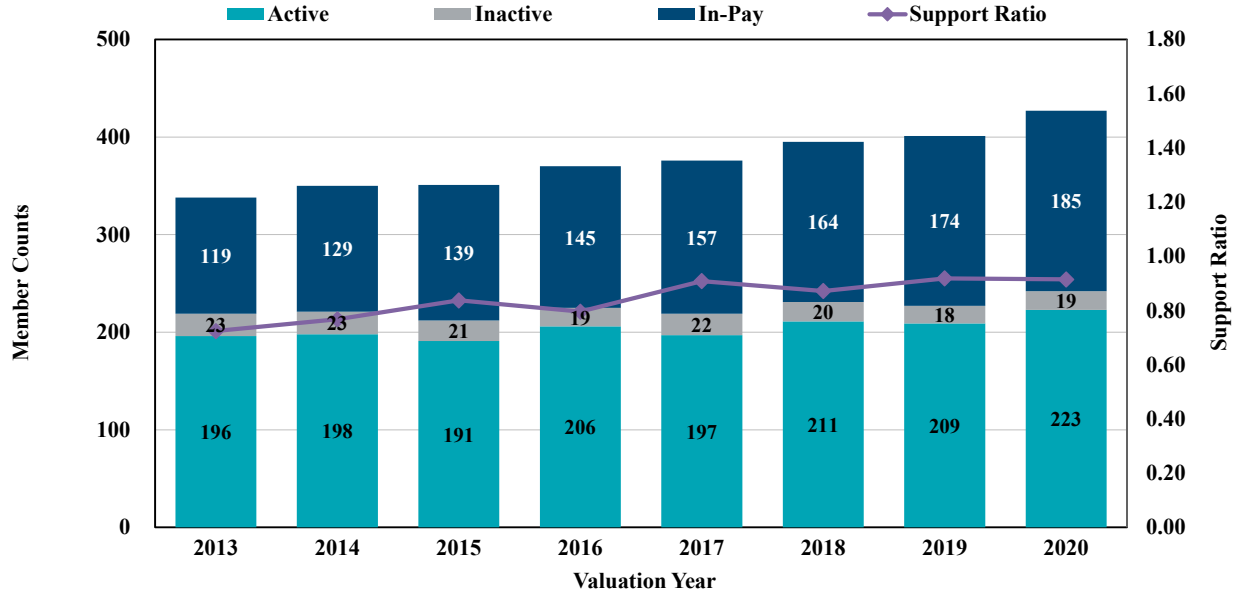
**Plan Maturity Measures**

The future financial condition of a mature pension plan is more sensitive to each of the risks identified above than a less mature plan. Before assessing each of these risks, it is important to understand the maturity of the plan compared to other plans and how the maturity has changed over time.

Plan maturity can be measured in a variety of ways, but they all get at one basic dynamic – the larger the plan is compared to the contribution or revenue base that supports it; the more sensitive the plan will be to risk. The measures on the next page have been selected as the most important in understanding the primary risks identified for the plan.

**Inactives per Active (Support Ratio)**

One simple measure of plan maturity is the ratio of the number of inactive members (those receiving benefits or inactives – those entitled to a deferred benefit) to the number of active members. The Support Ratio is expected to increase gradually as a plan matures. The chart below shows the Support Ratio has gradually grown from 0.72 in 2013 to 0.91 in 2020 as the number of retired members increased at a faster rate than the number of active members.



**Leverage Ratios**

Leverage or volatility ratios measure the size of the plan compared to its revenue base more directly. The asset leverage ratio is simply the market value of assets to active member payroll and indicates the sensitivity of the Plan to investment returns. The liability leverage ratio is the Plan’s Actuarial Liability to active member payroll and indicates the sensitivity of the Plan to assumption changes or demographic experience.



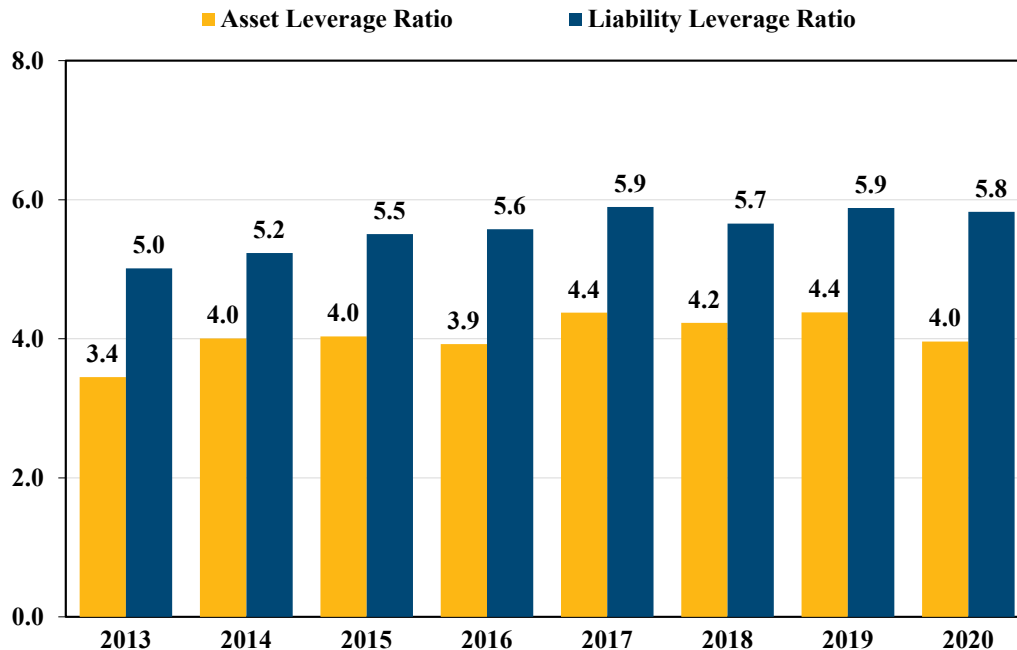
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**SECTION II – DISCLOSURES RELATED TO RISK**

The Plan assets are currently close to four times covered payroll. As the Plan becomes better funded, the asset leverage ratio will increase, and if it was 100% funded, the asset leverage ratio would be about six and equal the Actuarial Liability (AL) leverage ratio. Although both of these ratios are lower than those of many other public plans, the increase in the asset leverage ratio expected to accompany an improvement in the Plan’s funding still represents a substantial increase in the volatility of the contributions.

An asset leverage ratio of 4.0 means that if the Plan’s assets lose 10% of their value (a 17.00% actuarial loss compared to the expected return of 7.00%), the loss is about 68% of payroll ( $4.0 \times 17.00\%$ ). Based on the current amortization policy, the contribution rate would ultimately increase by approximately 4.9% of payroll if asset smoothing were not applied and the loss were amortized over 20 years. The same investment loss if the Plan were 100% funded would be around 99% of payroll and an ultimate contribution rate increase of about 7.1% of payroll, if amortized over 20 years.

The chart below shows the historical leverage ratios of the Plan. The leverage ratios have increased since 2013, though both declined from 2019 to 2020.



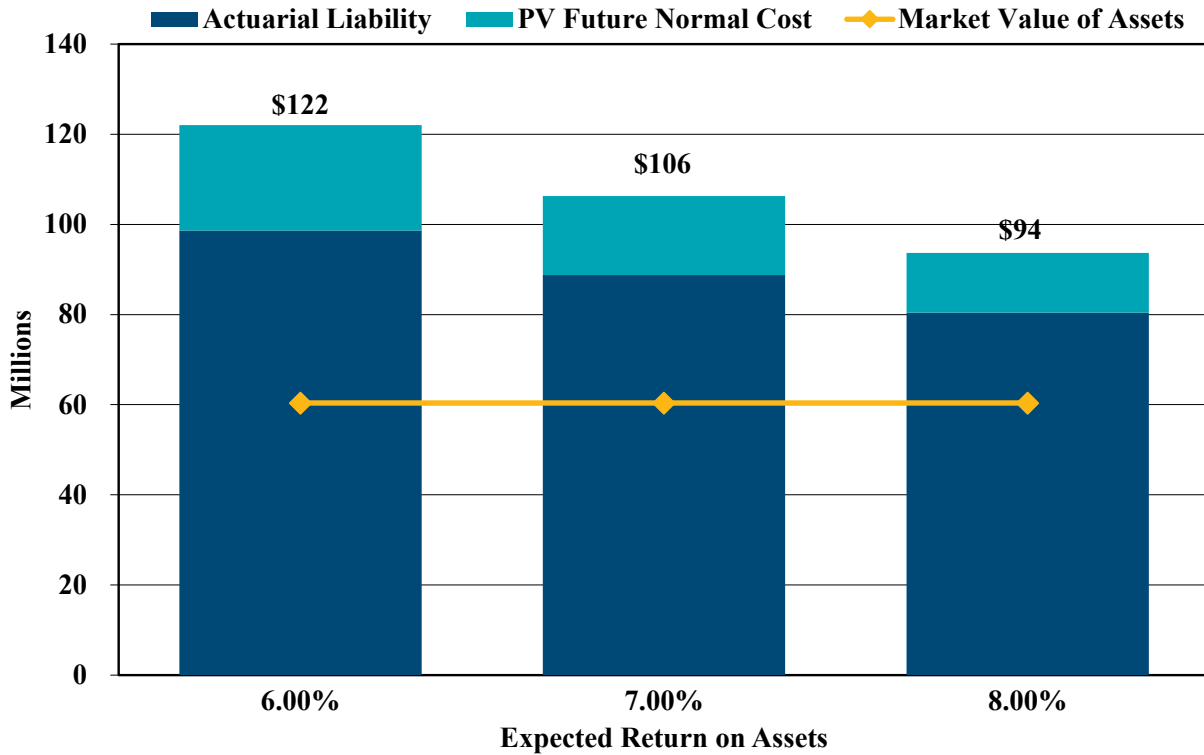
SECTION II – DISCLOSURES RELATED TO RISK

Assessing Costs and Risks

Sensitivity to Investment Returns

The chart below compares assets to the present value of all projected future benefits discounted at the current expected rate of return and at an investment return 100 basis points above and below the expected rate of return. The present value of future benefits is shown as a bar with the portion attributable to past service in dark blue (Actuarial Liability) and the portion attributable to future service in teal (Present Value of Future Normal Costs). The Market Value of Assets is shown by the gold line.

Present Value of Future Benefits versus Assets



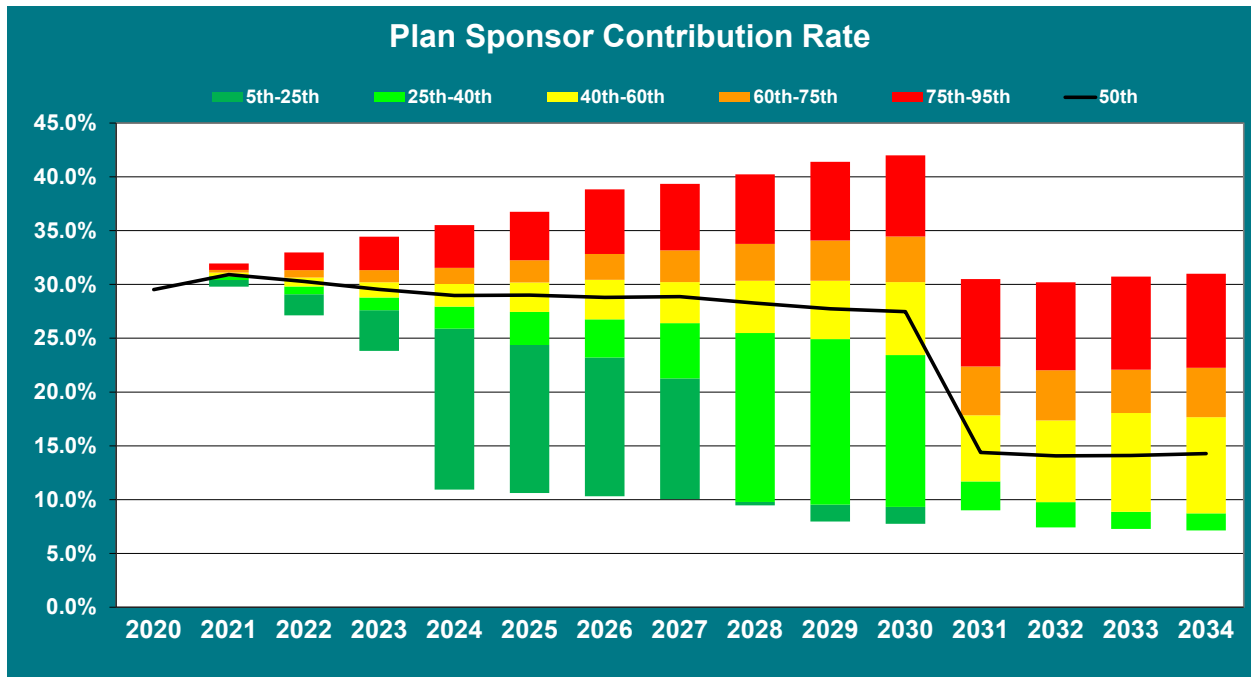
If investments return 7.00% annually, the Plan would need approximately \$106 million in assets today to pay all projected benefits compared to current assets of \$60 million. If investment returns are only 6.00%, the Plan would need approximately \$122 million in assets today, and if investment returns are 8.00%, the Plan would need approximately \$94 million in assets today.

**SECTION II – DISCLOSURES RELATED TO RISK**

**Stochastic Projections**

Stochastic projections serve to show the range of probable outcomes of various measurements. The chart below and on the following page show the projected range of the employer contribution rate and of the funded ratio on an Actuarial Value of Assets basis. The range in both scenarios is driven by the volatility of investment returns (assumed to be based on a 12.4% standard deviation of annual returns, as estimated and described in the Experience Study Report).

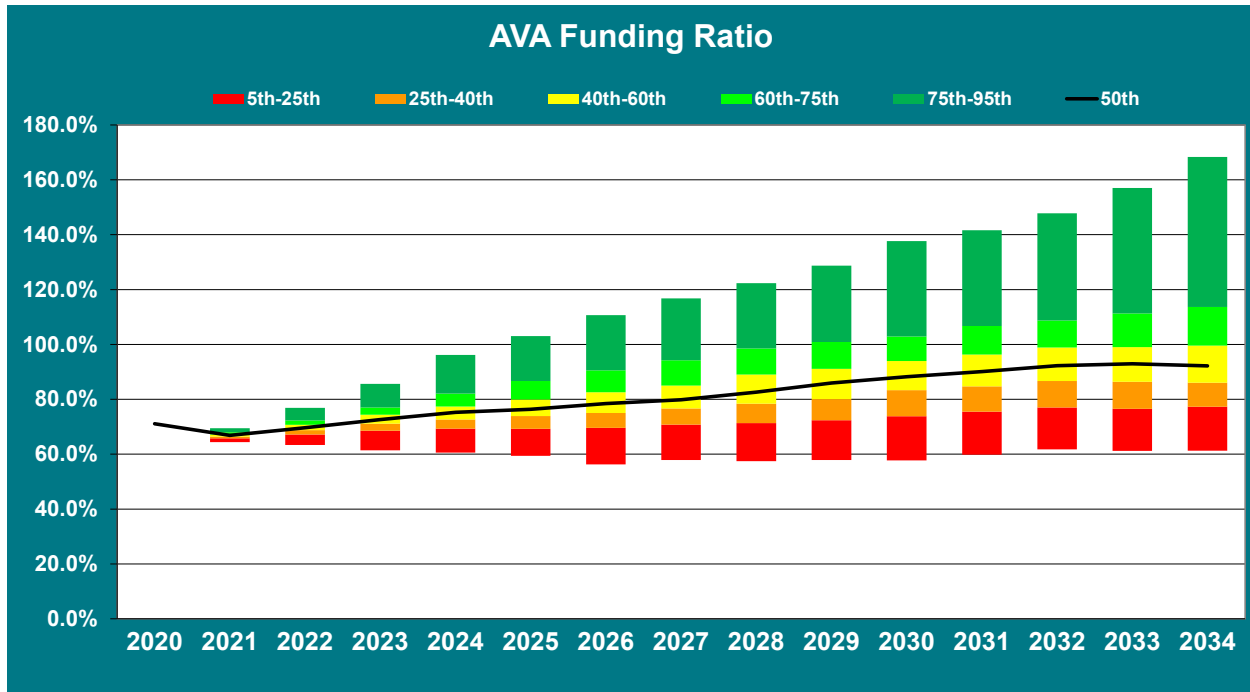
**Stochastic Projection of Employer Contributions as a Percent of Pay**



The stochastic projection of employer contributions as a percent of pay shows the probable range of future contribution rates. The baseline contribution rate (black line), which is based on the median of the simulations using an average return of 7.00%, aligns closely with the projections discussed in subsection D of the Executive Summary of this report. In the most pessimistic scenario shown, the 95<sup>th</sup> percentile, the projected employer contribution rate is about 42% of pay for the 2030 valuation (FYE 2032). Conversely, the most optimistic scenario shown, the 5<sup>th</sup> percentile, the projected employer contribution falls below 10% starting with the 2028 valuation (FYE 2030). We note that these projections set the employer contribution to not fall below the normal cost, as required under PEPR.

**SECTION II – DISCLOSURES RELATED TO RISK**

**Stochastic Projection of Funded Ratio on an Actuarial Value of Assets Basis**



The graph above shows the projection of the funded ratio based on the Actuarial Value of Assets. It is based on the same layered amortization policy described above, where the current UAL as of July 1, 2019 is paid off over 12 years, and all future gains or losses are amortized over a new closed 20-year period. While the baseline-funded ratio (black line) is projected to be nearly 100% at the end of the period shown here, there is a wide range of potential outcomes. Good investment returns have the likelihood of bringing the funded ratio well over 100%.

Under both the current funding policy of the Plan, even in scenarios with unfavorable investment returns the Plan is projected to remain close to 60% funded on an actuarial value of assets basis, as long as the actuarially determined contributions continue to be made.

**Contribution Risk**

While investment returns are typically the dominant factor in volatility, contribution rates can also be sensitive to future salary increases and the hiring of new members. When member payroll growth stagnates or even declines, the dollar level of contributions made to the Plan also stagnates or declines since contributions are based on payroll levels, though this will generally only present a funding issue if there is an extended period of payroll reductions.

There is also a risk of the contribution rate increasing even higher when payroll decreases since the Plan’s funding policy amortizes the UAL as a level percentage of pay. This means that the UAL payments increase at the assumed payroll growth rate of 3.00%, so that the payment is expected to remain constant as a percentage of payroll. If payroll growth is less than the expected 3.00% or there is a decline in payroll, the UAL payments are spread over a smaller payroll base

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and the contribution rate as a percentage of pay increases, making the Plan less affordable for those sponsors with declining payroll bases.

For example, the UAL Amortization rate as of June 30, 2020 for the FYE 2022 is 16.34%. If the projected payroll for FYE 2022 were 3.00% lower, all else being equal, the UAL Amortization rate would increase to 16.83%.

**More Detailed Assessment**

While a more detailed assessment is always valuable to enhance the understanding of the risks identified above, we believe the scenarios illustrated above cover the primary risks facing the Plan at this time. We would be happy to provide the Board with a more in-depth analysis at their request.

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**SECTION III – 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, 2019 and June 30, 2020
- 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 “snapshot” 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 III-1 discloses and compares each component of the market asset value as of June 30, 2019 and June 30, 2020.

Table III-1 Statement of Assets at Market Value June 30.			
Investments	2019	2020	
Cash and Cash Equivalents	\$ 2,203,967	\$	3,194,679
Equity Securities	37,890,099		40,270,748
Fixed Income Securities	21,082,948		19,091,086
Total Investments	\$ 61,177,014	\$	62,556,513
<b>Receivables:</b>			
Securities Sold	\$ 331,712	\$	2,632,707
Interest and Dividends	116,384		89,210
Other Receivable	63,637		12,197
Total Receivables	\$ 511,733	\$	2,734,114
<b>Payables</b>			
Accounts Payable	\$ (163,075)	\$	(359,298)
Benefits Payable	0		0
Other Payable	(1,376,564)		(4,552,204)
Total Payables	\$ (1,539,639)	\$	(4,911,502)
<b>Market Value of Assets</b>	<b>\$ 60,149,108</b>	<b>\$</b>	<b>60,379,125</b>

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**SECTION III – 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 III-2 shows the components of a change in the Market Value of Assets during 2019 and 2020.

<b>Table III-2 Changes in Market Values</b>		
	<b><u>2019</u></b>	<b><u>2020</u></b>
<b>Contributions</b>		
Employer's Contribution	\$ 3,299,013	\$ 3,230,879
Members' Contributions	209,531	304,593
Total Contributions	<u>\$ 3,508,544</u>	<u>\$ 3,535,472</u>
<b>Investment Income</b>		
Interest & Dividends	\$ 1,178,611	\$ 1,032,631
Realized & Unrealized Gain/(Loss)	2,570,415	334,330
Other Investment Income	0	0
Investment Expenses	<u>(266,394)</u>	<u>(284,302)</u>
Total Investment Income	<u>\$ 3,482,632</u>	<u>\$ 1,082,659</u>
<b>Disbursements</b>		
Benefit Payments	\$ (3,779,076)	\$ (4,169,979)
Expenses	(229,569)	(218,135)
Transfer from/(to) Union Plans	0	0
Total Disbursements	<u>\$ (4,008,645)</u>	<u>\$ (4,388,114)</u>
<b>Net increase (Decrease)</b>	<b>\$ 2,982,531</b>	<b>\$ 230,017</b>
<b>Net Assets Held in Trust for Benefits:</b>		
Beginning of Year	\$ 57,166,577	\$ 60,149,108
End of Year	<u>\$ 60,149,108</u>	<u>\$ 60,379,125</u>
Approximate Return	6.12%	1.81%
Administrative Expenses as a Percentage of Mean Assets	0.38%	0.36%

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**SECTION III – ASSETS**

**Actuarial Value of Assets (AVA)**

The Actuarial Value of Assets represents a “smoothed” value developed by the actuary to reduce the volatile results that 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 III-3 Development of Actuarial Value of Assets as of July 1, 2020							
	(a)	(b)	(c)	(d)	(e) = (d) – (c)	(f)	(g) = (e) x (f)
Year	Total Contributions	Total Disbursements	Expected Return	Actual Return	Additional Earnings	Not Recognized	Unrecognized Earnings
2016-2017	3,354,666	(3,520,537)	3,662,673	5,332,412	1,669,739	20%	333,948
2017-2018	3,299,327	(3,847,437)	3,901,302	3,629,568	(271,734)	40%	(108,694)
2018-2019	3,508,544	(4,008,645)	4,126,448	3,482,632	(643,816)	60%	(386,290)
2019-2020	3,535,472	(4,388,114)	4,330,443	1,082,659	(3,247,784)	80%	<u>(2,598,227)</u>
1. Total Unrecognized Dollars							(2,759,263)
2. Market Value of Assets as of June 30, 2020							60,379,125
3. Actuarial Value of Assets as of June 30, 2020: [(2) - (1)]							63,138,388
4. Ratio of Actuarial Value to Market Value [(3) ÷ (2)]							104.57%



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**SECTION III – 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 7.25% assumption.

<b>Table III-4 Asset Gain/(Loss)</b>		
	<b>Market Value</b>	<b>Actuarial Value</b>
<b>July 1, 2019 value</b>	\$ <b>60,149,108</b>	\$ <b>61,004,069</b>
Employer Contributions	3,230,879	3,230,879
Employee Contributions	304,593	304,593
Benefit Payments and Expenses	(4,388,114)	(4,388,114)
Expected Investment Earnings (7.25%)	4,330,443	4,392,428
Expected Value June 30, 2020	\$ <b>63,626,909</b>	\$ <b>64,543,855</b>
Investment <b>Gain / (Loss)</b>	<b>(3,247,784)</b>	<b>(1,405,467)</b>
<b>July 1, 2020 value</b>	\$ <b>60,379,125</b>	\$ <b>63,138,388</b>
Return	1.81%	4.93%

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**SECTION IV – LIABILITIES**

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

- **Disclosure** of Plan liabilities on July 1, 2019 and July 1, 2020
- 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 IV-1 discloses each of these liabilities for the current and prior valuations.

<b>Table IV-1</b>			
<b>Liabilities/Net (Surplus)/Unfunded</b>			
	<b>July 1, 2019</b>		<b>July 1, 2020</b>
<b><u>Present Value of Future Benefits</u></b>			
Active Participant Benefits	\$	44,187,533	\$ 51,488,294
Retiree and Inactive Benefits		49,224,174	54,799,999
<b>Present Value of Future Benefits (PVB)</b>	<b>\$</b>	<b>93,411,707</b>	<b>\$ 106,288,293</b>
<b><u>Actuarial Liability</u></b>			
Present Value of Future Benefits (PVB)	\$	93,411,707	\$ 106,288,293
Present Value of Future Normal Costs (PVFNC)		12,620,661	17,490,634
<b>Actuarial Liability (AL = PVB – PVFNC)</b>	<b>\$</b>	<b>80,791,046</b>	<b>\$ 88,797,659</b>
Actuarial Value of Assets (AVA)		61,004,069	63,138,388
<b>Net (Surplus)/Unfunded (AL – AVA)</b>	<b>\$</b>	<b>19,786,977</b>	<b>\$ 25,659,271</b>

**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
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**SECTION IV – LIABILITIES**

**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
- Transfers of liabilities from one plan to another

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
- Transfer of assets from one plan to another

<b>Table IV-2</b>		
<b>Changes in Actuarial Liability</b>		
Actuarial Liability at July 1, 2019	\$	80,791,046
Actuarial Liability at July 1, 2020	\$	88,797,659
Liability Increase (Decrease)		8,006,613
Change due to:		
Actuarial Methods / Software Changes	\$	0
Plan Changes		0
Assumption Changes		4,736,171
Accrual of Benefits		1,680,698
Actual Benefit Payments		(4,169,979)
Interest		5,768,693
Actuarial (Gain)/Loss		(8,970)

**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**SECTION IV – LIABILITIES**

Table IV-3 Development of Actuarial Gain / (Loss)	
1. Unfunded Actuarial Liability at Start of Year (not less than zero)	\$ 19,786,977
2. Employer Normal Cost at Middle of Year	1,680,698
3. Interest on 1. and 2. to End of Year	1,494,415
4. Expected Contributions, Admin Expenses and Transfers in Prior Year	3,666,960
5. Interest on 4. to End of Year	130,602
6. Change in Unfunded Actuarial Liability Due to Changes in Actuarial Methods	0
7. Change in Unfunded Actuarial Liability Due to Changes in Assumptions	4,736,171
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.]	\$ 23,900,699
10. Actual Unfunded Actuarial Liability at End of Year (not less than zero)	25,659,271
11. Actuarial Gain / (Loss) [9. – 10.]	\$ (1,758,572)
Actuarial Gain / (Loss) From Liabilities less than expected	8,970
Actuarial Gain / (Loss) From Actuarial Asset returns less than expected	(1,405,467)
Actuarial Gain / (Loss) From Expenses more than expected	(85,054)
Actuarial Gain / (Loss) From Contributions less than expected	(277,022)

**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**SECTION V – 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 for each member 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 12-year level percentage of payroll amortization of the remainder of the Unfunded Actuarial Liability as of July 1, 2019, again assuming mid-year payment to reflect the fact that employer contributions are made throughout the year. This valuation includes a proposed change in the funding policy to amortize future changes in the UAL (including the 2020 experience and assumption changes effective July 1, 2020) over new closed 20-year schedules, known as layered amortization.

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.

IBEW members hired on or after January 1, 2015 will contribute between 1.5% and 4.5% of Compensation to the Plan through April 1, 2018 and then will contribute half of the PEPRAs normal cost of the Plan rounded to the nearest 0.25%. Once established, the 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 PEPRAs members was 6.00% of payroll (1/2 of 12.12%, rounded to the nearest quarter). However, the normal cost rate for PEPRAs members as of July 1, 2020 valuation is 13.62%, and since the change is more than 1%, the rate for the following fiscal year increases to 6.75% (1/2 of 13.62%, rounded to the nearest quarter). Table V-2 contains the details of this calculation.

The tables on the following pages present the employer contributions for the Plan for the current and prior valuations as well as details on the amortization of the UAL.

**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**SECTION V – CONTRIBUTIONS**

<b>Table V-1</b>		
<b>Development of Employer Contribution Amount</b>		
	<b>July 1, 2019</b>	<b>July 1, 2020</b>
1. Entry Age Normal Cost (Middle of Year)		
a. Termination	\$ 167,371	\$ 203,717
b. Retirement	1,272,218	1,712,524
c. Disability	152,443	97,249
d. Death	76,413	64,991
e. Refunds	12,252	14,765
f. Total Normal Cost (a) + (b) + (c) + (d) + (e)	\$ 1,680,697	\$ 2,093,246
2. Entry Age Actuarial Liability		
<u>Active Members</u>		
a. Termination	\$ (299,405)	\$ (247,242)
b. Retirement	28,999,268	32,506,892
c. Disability	1,885,630	1,046,051
d. Death	1,010,193	743,927
e. Refunds	(28,814)	(51,968)
f. Total Active Liability: (a) + (b) + (c) + (d) + (e)	\$ 31,566,872	\$ 33,997,660
<u>Inactive Members</u>		
g. Termination	\$ 974,167	\$ 1,185,274
h. Retirement	38,056,487	42,435,252
i. Disability	1,815,136	1,829,913
j. Death	1,445,877	1,878,976
k. Non-Vested Due Refund	8,187	-
l. Transfer	6,924,320	7,470,584
m. Total Inactive Liability: (g) + (h) + (i) + (j) + (k) + (l)	\$ 49,224,174	\$ 54,799,999
n. Total Entry Age Actuarial Liability: (2f) + (2m)	\$ 80,791,046	\$ 88,797,659
3. Actuarial Value of Assets	\$ 61,004,069	\$ 63,138,388
4. Unfunded Actuarial Liability: (2n) - (3)	\$ 19,786,977	\$ 25,659,271
5. Unfunded Actuarial Liability Amortization at Middle of Year as a Level Percentage of Payroll	\$ 1,986,262	\$ 2,490,561
6. Expected Administrative Expenses	\$ 136,006	\$ 240,000
7. Expected Member Contributions	\$ (248,167)	\$ (424,014)
8. Employer Contribution Payable in Monthly Installments: (1f) + (5) + (6) + (7)	\$ 3,554,798	\$ 4,399,793
9. Covered Payroll (Normal Cost)	\$ 12,779,366	\$ 14,445,689
10. Covered Payroll (UAL Amort and Expenses)	\$ 13,735,701	\$ 15,245,596
11. Employer Contribution as a Percent of Covered Payroll: [(1f) + (7)] / (9) + [(5) + (6)] / (10)	26.66%	29.46% <sup>1</sup>

<sup>1</sup> The District will begin paying this percentage of payroll July 1, 2021.

**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**SECTION V – CONTRIBUTIONS**

**Table V-2  
Development of Amortization Payment**

<u>Type of Base</u>	<u>Date Established</u>	<u>Initial Amount</u>	<u>Initial Amortization Years</u>	<u>07/01/2020 Outstanding Balance</u>	<u>Remaining Amortization Years</u>	<u>Amortization Amount</u>
Remaining UAL as of 2019	07/01/2019	\$ 19,786,976	13	\$ 19,164,528	12	\$ 2,019,599
2020 Experience	07/01/2020	1,758,572	20	1,758,572	20	127,522
Assumption changes	07/01/2020	4,736,171	20	4,736,171	20	343,440
<b>Total Unfunded Actuarial Liability (UAL)</b>				<b>\$ 25,659,271</b>		<b>\$ 2,490,561</b>

**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**SECTION V – CONTRIBUTIONS**

<b>Table V-3 IBEW PEPRA/Non-PEPRA Summary</b>			
	<b>Non-PEPRA</b>	<b>PEPRA</b>	<b>Total</b>
1. Entry Age Normal Cost (Middle of Year)	\$ 1,237,698	\$ 855,548	\$ 2,093,246
2. Covered Payroll (Normal Cost)	\$ 8,163,991	\$ 6,281,698	\$ 14,445,689
3. Normal Cost as a Percent of Covered Payroll: (1) / (2)	15.16%	13.62%	14.49%
4. Expected Employee Contributions as a Percent of Covered Payroll	0.00%	( 6.75%)	( 2.94%)
5. Entry Age Actuarial Liability	\$ 86,876,466	\$ 1,921,193	\$ 88,797,659
6. Actuarial Value of Assets			\$ 63,138,388
7. Unfunded Actuarial Liability: (5) - (6)			\$ 25,659,271
8. Unfunded Actuarial Liability Amortization at Middle of Year as a Level Percentage of Payroll	\$ 1,424,628	\$ 1,065,933	\$ 2,490,561
9. Expected Administrative Expenses	\$ 137,283	\$ 102,717	\$ 240,000
10. Expected Employee Contributions	\$ 0	\$ (424,014)	\$ (424,014)
11. Employer Contribution Payable in Monthly Installments: (1) + (8) + (9) + (10)	\$ 2,799,609	\$ 1,600,183	\$ 4,399,793
12. Covered Payroll (UAL Amort and Expenses)	\$ 8,720,649	\$ 6,524,947	\$ 15,245,596
13. Total Contribution as a Percent of Covered Payroll: [(1) + (10)] / (2) + [(8) + (9)] / (12)	33.07%	24.78%	29.46% <sup>1</sup>

<sup>1</sup> The District will begin paying this percentage of payroll July 1, 2021.



**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**APPENDIX A – MEMBERSHIP INFORMATION**

The data for this valuation was provided by the Sacramento Regional District Transit staff as of July 1, 2020.

<b>Active Participants</b>	<b>July 1, 2019</b>	<b>July 1, 2020</b>
Number	209	223
Number Vested	129	121
Average Age	49.1	48.5
Average Service	10.6	9.7
Average Pay	\$62,467	\$62,991
<b>Retired</b>		
Number	144	155
Average Age	67.6	68.1
Average Annual Benefit	\$27,084	\$27,718
<b>Beneficiaries</b>		
Number	16	16
Average Age	67.9	66.4
Average Annual Benefit	\$10,572	\$12,069
<b>Disabled</b>		
Number	14	14
Average Age	66.1	67.1
Average Annual Benefit	\$15,737	\$15,737
<b>Term Vested</b>		
Number	18	19
Average Age	45.8	46.6
Average Annual Benefit	\$8,103	\$8,550
<b>Transferred</b>		
Number	37	34
Average Age	52.0	52.8
Average Annual Benefit	\$20,663	\$20,322
<b>Term Non-Vested / Due Refund</b>		
Number	3	4
Average Estimated Refund	\$2,729	\$1,996

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

**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**APPENDIX A – MEMBERSHIP INFORMATION**

<b>Changes in Plan Membership: IBEW</b>								
	<b>Actives</b>	<b>Actives with Transfer Service</b>	<b>Non-Vested Terms with Funds on Account</b>	<b>Vested Terminations</b>	<b>Disabled</b>	<b>Retired</b>	<b>Beneficiaries<sup>1</sup></b>	<b>Total</b>
July 1, 2019	209	37	3	18	14	144	16	441
New Entrants	38	0	0	0	0	0	0	38
Rehires	0	0	0	0	0	0	0	0
Disabilities	0	0	0	0	0	0	0	0
Retirements	(11)	0	0	0	0	11	0	0
Vested Terminations	0	(1)	0	1	0	0	0	0
Died, With Beneficiaries' Benefit Payable, QDRO	0	(1)	0	0	0	0	1	0
Transfers	(2)	4	0	0	0	0	0	2
Died, Without Beneficiary, and Other Terminations	(4)	0	4	0	0	(2)	0	(2)
Transfer Retirement	0	(3)	0	0	0	2	0	(1)
Beneficiary Deaths	0	0	0	0	0	0	(1)	(1)
Funds Transferred	0	0	0	0	0	0	0	0
Refund of Contributions, Not entitled to further	(7)	(1)	(3)	0	0	0	0	(11)
Data Corrections	0	0	0	0	0	0	0	0
July 1, 2020	<b>223</b>	<b>35</b>	<b>4</b>	<b>19</b>	<b>14</b>	<b>155</b>	<b>16</b>	<b>466</b>

<sup>1</sup> Beneficiary counts do not include DROs where benefits are paid over the member's lifetime.

**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**APPENDIX A – MEMBERSHIP INFORMATION**

Age / Service Distribution of IBEW Active Participants As of July 1, 2020														
Age	Service												Total	
	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		
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 to 24	0	2	0	0	0	0	0	0	0	0	0	0	0	2
25 to 29	4	2	2	5	0	0	0	0	0	0	0	0	0	13
30 to 34	6	3	4	0	4	6	0	0	0	0	0	0	0	23
35 to 39	5	1	1	4	2	5	0	0	0	0	0	0	0	18
40 to 44	7	3	3	0	6	6	1	6	0	0	0	0	0	32
45 to 49	3	1	2	4	1	4	3	4	0	0	0	0	0	22
50 to 54	2	2	1	2	1	5	8	4	2	1	3	0	0	31
55 to 59	5	2	2	2	0	7	4	7	5	5	1	0	0	40
60 to 64	2	0	4	2	0	2	1	10	4	4	2	0	0	31
65 to 69	0	0	0	0	0	0	3	3	0	0	3	0	0	9
70 & up	0	0	0	0	0	0	0	0	1	0	1	0	0	2
<b>Total</b>	<b>34</b>	<b>16</b>	<b>19</b>	<b>19</b>	<b>14</b>	<b>35</b>	<b>20</b>	<b>34</b>	<b>12</b>	<b>10</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>223</b>

Average Age = 48.5

Average Service = 9.7

**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**APPENDIX A – MEMBERSHIP INFORMATION**

Payroll Distribution of IBEW Active Participants As of July 1, 2020														
Age	Service												Total	
	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		
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 to 24	0	39,297	0	0	0	0	0	0	0	0	0	0	0	39,297
25 to 29	42,392	66,181	55,861	55,462	0	0	0	0	0	0	0	0	0	53,151
30 to 34	53,860	40,323	51,013	0	61,136	63,424	0	0	0	0	0	0	0	55,360
35 to 39	54,511	42,957	48,851	54,265	51,125	73,208	0	0	0	0	0	0	0	58,317
40 to 44	41,140	38,686	71,529	0	58,219	60,190	75,840	63,039	0	0	0	0	0	55,724
45 to 49	66,729	54,709	51,153	61,992	71,286	55,952	51,375	59,375	0	0	0	0	0	58,722
50 to 54	45,356	58,186	54,972	58,233	80,701	70,842	67,044	54,279	74,543	67,139	82,981	0	0	65,551
55 to 59	53,054	61,623	47,422	62,092	0	73,238	64,907	70,020	92,146	79,726	70,168	0	0	69,988
60 to 64	50,284	0	54,545	51,900	0	81,167	80,058	66,783	103,107	61,242	73,615	0	0	68,948
65 to 69	0	0	0	0	0	0	80,379	87,836	0	0	94,194	0	0	87,470
70 & up	0	0	0	0	0	0	0	0	60,101	0	63,190	0	0	61,646
<b>Total</b>	<b>50,294</b>	<b>49,079</b>	<b>55,238</b>	<b>57,199</b>	<b>60,578</b>	<b>67,450</b>	<b>67,357</b>	<b>66,304</b>	<b>90,195</b>	<b>71,074</b>	<b>81,211</b>	<b>0</b>	<b>0</b>	<b>62,991</b>

Average Salary = \$ 62,991

**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**APPENDIX A – MEMBERSHIP INFORMATION**

**Service Retired Participants and  
Beneficiaries**

Age	Number	Average Monthly Benefit
30-34	0	\$0
35-39	2	\$467
40-44	0	\$0
45-49	0	\$0
50-54	2	\$1,950
55-59	17	\$2,002
60-64	25	\$2,260
65-69	70	\$2,308
70-74	33	\$2,442
75-79	12	\$1,596
80-84	4	\$1,360
85-89	4	\$2,503
90-94	2	\$996
95+	0	\$0
<b>Total</b>	<b>171</b>	<b>\$2,188</b>

**Disabled Participants**

Age	Number	Average Monthly Benefit
30-34	0	\$0
35-39	0	\$0
40-44	0	\$0
45-49	0	\$0
50-54	1	\$1,107
55-59	2	\$1,817
60-64	3	\$1,325
65-69	2	\$906
70-74	4	\$1,490
75-79	2	\$935
80-84	0	\$0
85-89	0	\$0
90+	0	\$0
<b>All Ages</b>	<b>14</b>	<b>\$1,311</b>

**Terminated Vested Participants**

Age	Number	Average Monthly Benefit
25-29	0	\$0
30-34	0	\$0
35-39	2	\$358
40-44	7	\$862
45-49	3	\$692
50-54	6	\$733
55-59	1	\$307
60-64	0	\$0
65-69	0	\$0
70-74	0	\$0
75-79	0	\$0
80-84	0	\$0
85-89	0	\$0
90+	0	\$0
<b>All Ages</b>	<b>19</b>	<b>\$712</b>

**Tranferred Participants**

Age	Number	Average Monthly Benefit
25-29	0	\$0
30-34	0	\$0
35-39	1	\$1,799
40-44	1	\$50
45-49	9	\$1,277
50-54	11	\$1,430
55-59	9	\$2,271
60-64	2	\$2,045
65-69	1	\$3,979
70-74	0	\$0
75-79	0	\$0
80-84	0	\$0
85-89	0	\$0
90+	0	\$0
<b>All Ages</b>	<b>34</b>	<b>\$1,693</b>

**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**APPENDIX B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS**

The assumptions and methods used in the actuarial valuation as of July 1, 2020 are:

**Actuarial Method**

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.

The excess of the Actuarial Liability over Plan assets is the Unfunded Actuarial Liability. As of July 1, 2007, the amortization period was reset to a 30-year period, decreasing two years with each valuation until a 20-year amortization period was achieved, at which point the amortization period was reduced by one year annually. The amortization period as of July 1, 2020 is 12 years for the UAL determined as of July 1, 2019. This valuation reflects a change to 20-year layered amortization for UAL changes after 2019, including 20-year schedules for the assumptions incorporated as part of the 2020 experience study and the 2020 Actuarial Gain/(Loss). Future changes in the UAL will also be amortized over closed 20-year schedules.

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.

**Modeling**

Cheiron utilizes ProVal actuarial valuation software leased from Winklevoss Technologies (WinTech) to calculate liabilities and project benefit payments. We have relied on WinTech as the developer of ProVal. We have a basic understanding of ProVal and have used ProVal in accordance with its original intended purpose. We have not identified any material inconsistencies in assumptions or output of ProVal that would affect this valuation.

Deterministic and stochastic projections in this valuation report were developed using R-scan, a proprietary tool used to illustrate the impact of changes in assumptions, methods, plan provisions, or actual experience (particularly investment experience) on the future financial status of the Plan. R-scan uses standard roll-forward techniques that implicitly assume a stable active population. Because R-scan does not automatically capture how changes in one variable affect all other variables, some scenarios may not be consistent.

**APPENDIX B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS**

**Actuarial Assumptions**

The actuarial assumptions were developed based on an experience study covering the period from July 1, 2015 through June 30, 2020.

**1. Rate of Return**

The annual rate of return on all Plan assets is assumed to be 7.00% for the current valuation 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 2.75% per year.

**3. Increases in Pensionable Payroll / Amortization Payments**

Overall pensionable compensation (used in the calculation of amortization payments) is expected to grow by 3.00% per year.

**4. Plan Expenses**

Administrative expenses are assumed to be \$240,000 for Fiscal Year 2021-22 and are added directly to the actuarial cost calculation. The expenses are assumed to increase with CPI in future years.

**5. Increases in Pay**

Assumed pay increases for active Participants consist of increases due to wage inflation and those due to longevity and promotion.

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

<b>Salary Increases</b>			
<b>Service</b>	<b>Base</b>	<b>Longevity &amp; Promotion</b>	<b>Total (Compound)</b>
0	3.00%	13.00%	16.39%
1	3.00%	11.00%	14.33%
2	3.00%	5.00%	8.15%
3	3.00%	2.50%	5.58%
4-6	3.00%	1.50%	4.55%
7+	3.00%	0.75%	3.77%

**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**APPENDIX B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS**

**6. Family Composition**

85% of participants are assumed to be married. Males are assumed to be three years older than their spouses, and females are assumed to be three years younger than their spouses. This assumption is applied to active members, as well as retired members with a joint and survivor benefit where the data is missing the beneficiary date of birth.

**7. Terminal Payments**

Retirement benefits are assumed to be increased by 7.0% 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.

**8. Missed Pay Periods**

A 2.62% load is applied to the normal cost for IBEW PEPRA members to adjust for the missed pay periods in which service is credited yet no contributions are made by the member.

**9. Employment Status**

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

**10. 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:

<b>Termination Rates*</b>	
<b>Years of Service</b>	<b>Rate</b>
0-4	8.00%
5-9	5.00%
10-14	3.00%
15-19	2.00%
20+	0.50%

\* 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).



**RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES:  
IBEW PLAN ACTUARIAL VALUATION REPORT AS OF JULY 1, 2020**

**APPENDIX B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS**

**11. Rates of Disability**

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

Rates of Disability		
Age	Male	Female
22	0.15%	0.00%
27	0.20%	0.15%
32	0.25%	0.20%
37	0.30%	0.28%
42	0.35%	0.43%
47	0.40%	0.67%
52	0.45%	1.18%
57	0.50%	2.04%
62	0.55%	2.87%

**12. Rates of Mortality for Active Healthy Lives**

Pri-2012 Blue Collar Healthy Employee Headcount-weighted mortality rates for male ATU and IBEW members, and the Cheiron ATU Employee mortality rates adjusted by 105% for female ATU and IBEW members, with generational improvements using MP-2020 from the base year of the tables (2012 and 2016, respectively).

**13. Rates of Mortality for Disabled Retirees**

Cheiron ATU Disabled Annuitant mortality for ATU and IBEW members, with no adjustment, with generational improvements using Scale MP-2020 from 2016.

**14. Retired Member and Beneficiary Mortality**

Cheiron ATU Healthy Annuitant mortality for ATU and IBEW members, adjusted by 95% for males and 105% for females, with generational improvements using Scale MP-2020 from 2016.

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**15. Rates of Retirement**

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

Rates of Retirement*				
Age	Years of Service			
	5-9	10-24	25-29	30+
Under 55	0.00%	0.00%	2.00%	2.00%
55-59	2.30%	2.30%	2.30%	10.00%
60-64	4.00%	11.70%	11.70%	20.00%
65	4.00%	32.00%	32.00%	32.00%
66-69	4.00%	25.00%	25.00%	32.00%
70+	100.00%	100.00%	100.00%	100.00%

\*PEPRA members are assumed to begin retiring at age 52, with at least five years of service.

**16. Changes Since Last Valuation**

Demographic assumptions (termination rates, retirement rates, disability rates, mortality rates and merit salary increases) were updated to reflect the most recent experience study. Refer to the prior year valuation report for prior year assumptions.

The assumed rate of return was changed from 7.25% to 7.00%.

The assumed rate of cost of living inflation (CPI) was changed from 3.00% to 2.75%.

Assumed administrative expenses were updated to \$240,000 for FY 2021-22, increasing by the CPI annually.

## 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 last 48 months of compensation are used in the calculation.

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.

For IBEW members, service includes time with the District or predecessor companies immediately prior to September 16, 1974 and subsequent to hire. Service is measured in completed quarters.

### 2. Participation

Eligibility:

Any person employed by the District who is a member IBEW Local 1245 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 November 1, 2005, an IBEW Participant is eligible for normal service retirement upon attaining age 55 and completing 10 or more years of service. Effective November 1, 2005, IBEW members are eligible to retire upon reaching 25 years of service. Effective November 1, 2006, an IBEW Participant is eligible for normal service or disability retirement upon attaining age 55 and completing five or more years of service.

## APPENDIX C – SUMMARY OF PLAN PROVISIONS

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 on February 28, 1993 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 retirements and terminations on and after July 1, 2008, the percentage is equal to:

- 2.0%, if the member retires after age 55 and prior to age 60 and prior to 30 years of service,
- 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. 10 years of service is required to qualify for disability. For IBEW members with active service on or after November 1, 2006 (including PEPRA members), only five years of service is needed.

**Benefit Amount:** For IBEW 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. 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

## APPENDIX C – SUMMARY OF PLAN PROVISIONS

attained had employment continued until age 62, excluding PEPRA members.

**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.

### 5. Pre-Retirement Death Benefit

**Eligibility:** A Participant's surviving spouse or Domestic Partner is eligible for a pre-retirement death benefit, if the Participant has completed 10 years of service with the District. Effective November 1, 2006, an IBEW Participant's surviving spouse or Domestic Partner is eligible for a pre-retirement death benefit if the Participant has completed five years of service with the District, including PEPRA members.

**Benefit Amount:** The pre-retirement death benefit is the actuarial equivalent of the Normal Retirement Benefit, as if the member retired on the day before his/her death. If the member is not eligible to retire on the day before his/her death, but is vested in his/her benefit, the benefit shall be calculated using a 1% multiplier for PEPRA members and a 2% for all other members.

**Form of Benefit:** The death benefit begins when the Participant dies and continues for the life of the surviving spouse or Domestic Partner. No optional form of benefit may be elected. No cost-of-living increases are payable.

### 6. Termination Benefit

**Eligibility:** An IBEW Participant is eligible for a termination benefit after earning five years of service. The terminated Participant will be eligible to commence benefits at age 62 (or as early as age 55 if eligible).

PEPRA members are eligible for a termination benefit after earning five years of service, commencing as early as age 52.

**Benefit Amount:** The benefit payable to a vested terminated Participant is equal to the Normal Retirement Benefit, based on the provisions of the Plan in effect on the date the Participant terminated employment.

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.

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**APPENDIX C – SUMMARY OF PLAN PROVISIONS**

Form of Benefit: The termination 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.

**7. Reciprocity Benefit**

Eligibility: A Participant who transfers from this Plan to the RT Salaried 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 Salaried 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**

IBEW members hired or rehired by the District on or after January 1, 2015 will contribute 1.5% of pay after one year of service, 3.0% of pay after two years of service, 4.5% of pay after three years of service, and 50% of normal cost up to 5% of pay after four years of service. Effective April 1, 2018, IBEW members hired or rehired by the District on or after January 1, 2015 will contribute half of the normal cost of the PEPRA 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 6.00% (1/2 of 12.12%, rounded to the nearest quarter) of payroll. However the normal cost rate for the PEPRA members as of the July 1, 2020 valuation is 13.62%, and since the change is more than 1%, the rate for the following fiscal year increases to 6.75% (1/2 of 13.62%, rounded to the nearest quarter) of payroll.

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 that 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.

### 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.

**APPENDIX D – GLOSSARY**

**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 that 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.





*Classic Values, Innovative Advice*