



# **City and County of San Francisco Employees' Retirement System**

## **GASB 67/68 Report as of June 30, 2018**

**Produced by Cheiron**

**February 2019**

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February 15, 2019

Retirement Board  
City and County of San Francisco  
Employees' Retirement System  
1145 Market Street, 5<sup>th</sup> Floor  
San Francisco, CA 94103

Dear Members of the Board:

The purpose of this report is to provide accounting and financial reporting information under the Governmental Accounting Standards Board Statements 67 and 68 (GASB 67 and 68) for the City and County of San Francisco Employees' Retirement System ("System") and for the participating employers, respectively. This information includes:

- Determination of the discount rate as of June 30, 2018,
- Projection of the Total Pension Liability from the valuation date to the measurement date,
- Note disclosures and required supplementary information under GASB 67 for the System,
- Determination of collective amounts under GASB 68, and
- Schedules for the financial reporting of participating employers under GASB 68.

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

Sincerely,  
Cheiron



William R. Hallmark, ASA, EA, FCA, MAAA  
Consulting Actuary



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



**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2018 MEASUREMENT DATE**

**SECTION I – BOARD SUMMARY**

**Highlights**

The measurement date for the City and County of San Francisco Employees' Retirement System ("System") is June 30, 2017. Measurements are based on the fair value of assets as of June 30, 2018 and the Total Pension Liability as of the valuation date, June 30, 2017, updated to June 30, 2018.

The beginning and end of year measurements are based on different Supplemental COLA assumptions. A detailed description of the Supplemental COLA assumptions can be found in Appendix B of this report.

The table below provides a summary of the key collective results during this measurement period.

	Measurement Date	
	6/30/2018	6/30/2017
Net Pension Liability	\$ 4,282,707	\$ 4,993,365
Deferred Outflows	(702,507)	(855,997)
Deferred Inflows	809,598	351,691
Net Impact on Statement of Net Position	\$ 4,389,798	\$ 4,489,059
Pension Expense (\$ Amount)	\$ 519,806	\$ 779,276
Pension Expense (% of Payroll)	16.14%	25.62%

*Amounts in Thousands*

The Net Pension Liability (NPL) decreased by about \$711 million since the prior measurement date, primarily due to investment gains (\$862 million). There were also experience gains on the Total Pension Liability (\$42 million) that further reduced the NPL and assumption changes (\$171 million) primarily related to the increased likelihood of future Supplemental COLAs that slightly offset the investment and liability experience gains. The investment gains are recognized over five years, and the actuarial gains and assumption changes are recognized over the average remaining service life, which is also five years. Unrecognized amounts are reported as deferred inflows and deferred outflows.

As of the end of the measurement year, the System and its participating employers would report a Net Pension Liability of \$4,282,707,000, Deferred Inflows of \$809,598,000, and Deferred Outflows of \$702,507,000. Consequently, the net impact on the aggregate of participating employers' Statements of Net Position due to the System would be \$4,389,798,000 at the end of the measurement year.

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
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**SECTION I – BOARD SUMMARY**

For the measurement year ending June 30, 2018, the collective annual pension expense is \$519,806,000 or 16.14% of covered payroll. This amount is not related to participating employers' contributions to the System (\$619,067,000), but instead represents the change in the net impact on participating employers' Statements of Net Position plus employer contributions (\$4,389,798,000 – \$4,489,059,000 + \$619,067,000). The collective pension expense of \$519,806,000 is smaller than the collective expense for the prior year of \$779,275,000. Volatility in pension expense from year to year is to be expected. It will largely be driven by investment gains or losses, but other changes can also have a significant impact. A breakdown of the components of the collective net pension expense is shown in Section VI of the report.

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
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**SECTION II – CERTIFICATION**

The purpose of this report is to provide accounting and financial reporting information under GASB 67 for the City and County of San Francisco Employees' Retirement System ("System") and under GASB 68 for the employers that participate in the System. This report is for the use of the System, the participating employers, and their auditors in preparing financial reports in accordance with applicable law and accounting requirements. This report is not appropriate for other purposes, including the measurement of funding requirements for the System.

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

Future actuarial measurements may differ significantly from the current measurements due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and, changes in plan provisions or applicable law.

To the best of our knowledge, this report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices 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 System 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.

William R. Hallmark, ASA, EA, FCA, MAAA  
Consulting Actuary

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

**SECTION III – DETERMINATION OF DISCOUNT RATE**

The discount rate used to measure the Total Pension Liability was 7.50%.

The projection of cash flows used to determine the discount rate assumed that plan member contributions will continue to be made at the rates specified in the Charter. Employer contributions were assumed to be made in accordance with the contribution policy in effect for the July 1, 2017 actuarial valuation. That policy includes contributions equal to the employer portion of the Entry Age normal cost for members as of the valuation date, a payment for the expected administrative expenses, and an amortization payment on the Unfunded Actuarial Liability.

The amortization payment is based on closed periods that vary in length depending on the source. Charter amendments prior to July 1, 2014 are amortized over 20 years. After July 1, 2014, any Charter changes to active member benefits are amortized over 15 years and changes to inactive member benefits, including Supplemental COLAs, are amortized over 5 years. The remaining Unfunded Actuarial Liability not attributable to Charter amendments as of July 1, 2013, is amortized over a 19-year period commencing July 1, 2014. Experience gains and losses and assumption or method changes on or after July 1, 2014 are amortized over 20 years. The full amortization payment for the 2015 assumption changes is phased in over a period of 5 years. For the July 1, 2016 valuation, the increase in the Unfunded Actuarial Liability attributable to the Supplemental COLAs granted on July 1, 2013 and July 1, 2014 are amortized over 17-years and 5-years, respectively. All amortization schedules are established as a level percentage of payroll so payments increase 3.5% each year.

The Unfunded Actuarial Liability is based on an Actuarial Value of Assets that smooths investment gains and losses over five years and a measurement of the Actuarial Liability that excludes the value of any future Supplemental COLAs.

While the contributions and measure of Actuarial Liability in the funding valuation do not anticipate any future Supplemental COLAs, the projected contributions for the determination of the discount rate include the anticipated future amortization payments on future Supplemental COLAs for current members when they are expected to be granted. For members who worked after November 6, 1996 and before Proposition C passed (Post 97 Retirees), a Supplemental COLA is granted if the actual investment earnings during the year exceed the expected investment earnings on the Actuarial Value of Assets. For members who did not work after November 6, 1996 and before Proposition C passed, the Market Value of Assets must also exceed the Actuarial Liability at the beginning of the year for a Supplemental COLA to be granted. When a Supplemental COLA is granted, the amount depends on the amount of excess earnings and the basic COLA amount for each membership group. The large majority of members receive a 1.50% Supplemental COLA when granted.

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
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**SECTION III – DETERMINATION OF DISCOUNT RATE**

Because the probability of a Supplemental COLA depends on the current funded level of the System for certain members, we developed an assumption as of June 30, 2018 for the probability and amount of Supplemental COLA for each future year. We have assumed that a full Supplemental COLA will be paid to all Post 97 Retirees effective July 1, 2018. The table below shows the net assumed Supplemental COLA for members with a 2.00% Basic COLA for sample years. Appendix B contains complete information on the assumption.

<b>Assumed Supplemental COLA for Members with a 2.00% Basic COLA</b>		
<b>July 1,</b>	<b>96 – Prop C</b>	<b>Before 96 or After Prop C</b>
2018	1.50%	0.00%
2019	0.75%	0.00%
2022	0.75%	0.29%
2025	0.75%	0.35%
2028	0.75%	0.36%
2031+	0.75%	0.38%

The projection of benefit payments to current members for determining the discount rate includes the payment of anticipated future Supplemental COLAs.

Based on these assumptions, the System's fiduciary net position was projected to be available to make projected future benefit payments for current members until FYE 2097, when only a portion of the projected benefit payments are expected to be made from the projected fiduciary net position. Projected benefit payments are discounted at the long-term expected return on assets of 7.50% to the extent the fiduciary net position is available to make the payments and at the municipal bond rate of 3.87% to the extent they are not available. The single equivalent rate used to determine the Total Pension Liability as of June 30, 2018 rounded to four decimals is 7.50%.

Appendix D shows the details of this calculation.



**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
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**SECTION IV – PROJECTION OF TOTAL PENSION LIABILITY**

The Total Pension Liability (TPL) at the end of the measurement year, June 30, 2018 is measured as of a valuation date of June 30, 2017 and projected to June 30, 2018. Because the TPL shown in the prior report was measured as of June 30, 2016 and projected to June 30, 2017, it will not match the amounts measured as of June 30, 2017 that are shown in this exhibit.

The table below shows the projection of the TPL at discount rates equal to the rate used for disclosure and plus and minus one percent from the rate used for disclosure.

<b>Table IV-1</b>			
<b>Projection of Collective TPL from Valuation to Measurement Date</b>			
<b>Discount Rate</b>	<b>6.50%</b>	<b>7.50%</b>	<b>8.50%</b>
<b>Collective Total Pension Liability, 6/30/2017</b>			
Actives	\$ 12,550,930	\$ 10,666,058	\$ 9,140,202
Inactives	\$ 18,584,116	\$ 16,868,931	\$ 15,418,815
<b>Total</b>	<b>\$ 31,135,046</b>	<b>\$ 27,534,989</b>	<b>\$ 24,559,017</b>
<b>Service Cost</b>	\$ 802,766	\$ 632,118	\$ 503,281
<b>Benefit Payments</b>	\$ 1,364,587	\$ 1,364,587	\$ 1,364,587
<b>Interest</b>	\$ 2,005,806	\$ 2,038,153	\$ 2,051,657
<b>Collective Total Pension Liability, 6/30/2018</b>	<b>\$ 32,579,031</b>	<b>\$ 28,840,673</b>	<b>\$ 25,749,368</b>

*Amounts in Thousands*

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
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**SECTION V – GASB 67 REPORTING INFORMATION**

**Note Disclosures**

The table below shows the changes in the Total Pension Liability, the Plan Fiduciary Net Position (i.e., fair value of System assets), and the Net Pension Liability during the measurement year.

<b>Table V-1 Change in Collective Net Pension Liability</b>			
	<b>Increase (Decrease)</b>		
	<b>Total Pension Liability</b>	<b>Plan Fiduciary Net Position</b>	<b>Net Pension Liability</b>
	<b>(a)</b>	<b>(b)</b>	<b>(a) - (b)</b>
<b>Balances at 6/30/2017</b>	\$ 27,403,715	\$ 22,410,350	\$ 4,993,365
<b>Changes for the year:</b>			
Service cost	632,118		632,118
Interest	2,041,110		2,041,110
Changes of benefits	0		0
Differences between expected and actual experience	(42,382)		(42,382)
Changes of assumptions	170,699		170,699
Contributions - employer		619,067	(619,067)
Contributions - member		364,696	(364,696)
Net investment income		2,549,674	(2,549,674)
Benefit payments	(1,364,587)	(1,364,587)	0
Administrative expense		(21,234)	21,234
<b>Net changes</b>	<u>\$ 1,436,958</u>	<u>\$ 2,147,616</u>	<u>\$ (710,658)</u>
<b>Balances at 6/30/2018</b>	<u>\$ 28,840,673</u>	<u>\$ 24,557,966</u>	<u>\$ 4,282,707</u>

*Amounts in Thousands*

During the measurement year, the collective NPL decreased by approximately \$711 million. The service cost and interest cost increased the collective NPL by approximately \$2,673 million while contributions and investment income offset by administrative expenses decreased the collective NPL by approximately \$3,512 million.

There were actuarial experience gains and assumption changes during the year of approximately \$42 million and \$171 million, respectively.

Changes in the discount rate affect the measurement of the TPL. Lower discount rates produce a higher TPL and higher discount rates produce a lower TPL. Because the discount rate does not affect the measurement of assets, the percentage change in the NPL can be very significant for a relatively small change in the discount rate. The table on the following page shows the sensitivity of the collective NPL to the discount rate.

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**SECTION V – GASB 67 REPORTING INFORMATION**

<b>Table V-2</b>			
<b>Sensitivity of Collective NPL to Changes in Discount Rate</b>			
	<b>1% Decrease 6.50%</b>	<b>Discount Rate 7.50%</b>	<b>1% Increase 8.50%</b>
Total Pension Liability	\$ 32,579,031	\$ 28,840,673	\$ 25,749,368
Plan Fiduciary Net Position	<u>24,557,966</u>	<u>24,557,966</u>	<u>24,557,966</u>
Collective Net Pension Liability	<u>\$ 8,021,065</u>	<u>\$ 4,282,707</u>	<u>\$ 1,191,402</u>
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	75.4%	85.2%	95.4%

*Amounts in Thousands*

A one percent decrease in the discount rate increases the TPL by approximately 13% and increases the collective NPL by approximately 87%. A one percent increase in the discount rate decreases the TPL by approximately 11% and decreases the collective NPL by approximately 72%.

**Required Supplementary Information**

The schedules of Required Supplementary Information generally start with information as of the implementation of GASB 67, and eventually will build up to 10 years of information. The schedule on the next page shows the changes in collective NPL and related ratios required by GASB for the five years since implementation.

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2018 MEASUREMENT DATE**

**SECTION V – GASB 67 REPORTING INFORMATION**

<b>Table V-3</b>					
<b>Schedule of Changes in Collective Net Pension Liability and Related Ratios</b>					
	FYE 2018	FYE 2017	FYE 2016	FYE 2015	FYE 2014
<b><u>Total Pension Liability</u></b>					
Service cost	\$ 632,118	\$ 644,277	\$ 567,576	\$ 523,644	\$ 509,200
Interest	2,041,110	1,924,206	1,669,996	1,621,582	1,542,266
Changes of benefit terms	0	0	1,293,714	0	0
Differences between expected and actual experience	(42,382)	57,911	(119,270)	(197,981)	0
Changes of assumptions	170,699	88,180	1,087,309	216,845	(73,315)
Benefit payments, including refunds of member contributions	(1,364,587)	(1,278,140)	(1,256,146)	(1,131,030)	(1,072,526)
<b>Net change in total pension liability</b>	<b>\$ 1,436,958</b>	<b>\$ 1,436,434</b>	<b>\$ 3,243,179</b>	<b>\$ 1,033,060</b>	<b>\$ 905,625</b>
<b>Total pension liability - beginning</b>	<b>\$ 27,403,715</b>	<b>\$ 25,967,281</b>	<b>\$ 22,724,102</b>	<b>\$ 21,691,042</b>	<b>\$ 20,785,417</b>
<b>Total pension liability - ending</b>	<b>\$ 28,840,673</b>	<b>\$ 27,403,715</b>	<b>\$ 25,967,281</b>	<b>\$ 22,724,102</b>	<b>\$ 21,691,042</b>
<b><u>Plan fiduciary net position</u></b>					
Contributions - employer	\$ 619,067	\$ 551,810	\$ 526,805	\$ 592,643	\$ 532,882
Contributions - member	364,696	316,844	322,764	301,682	289,020
Net investment income	2,549,674	2,683,467	150,190	763,429	3,175,431
Benefit payments, including refunds of member contributions	(1,364,587)	(1,278,140)	(1,256,146)	(1,131,030)	(1,072,526)
Administrative expense	(21,234)	(18,134)	(17,179)	(19,262)	(15,745)
<b>Net change in plan fiduciary net position</b>	<b>\$ 2,147,616</b>	<b>\$ 2,255,847</b>	<b>\$ (273,566)</b>	<b>\$ 507,462</b>	<b>\$ 2,909,062</b>
<b>Plan fiduciary net position - beginning</b>	<b>\$ 22,410,350</b>	<b>\$ 20,154,503</b>	<b>\$ 20,428,069</b>	<b>\$ 19,920,607</b>	<b>\$ 17,011,545</b>
<b>Plan fiduciary net position - ending</b>	<b>\$ 24,557,966</b>	<b>\$ 22,410,350</b>	<b>\$ 20,154,503</b>	<b>\$ 20,428,069</b>	<b>\$ 19,920,607</b>
<b>Net pension liability - ending</b>	<b>\$ 4,282,707</b>	<b>\$ 4,993,365</b>	<b>\$ 5,812,778</b>	<b>\$ 2,296,033</b>	<b>\$ 1,770,435</b>
<b>Plan fiduciary net position as a percentage of the total pension liability</b>	85.15%	81.78%	77.61%	89.90%	91.84%
<b>Covered payroll</b>	\$ 3,221,544	\$ 3,041,818	\$ 2,836,498	\$ 2,642,752	\$ 2,507,162
<b>Net pension liability as a percentage of covered payroll</b>	132.94%	164.16%	204.93%	86.88%	70.62%

*Amounts in Thousands*

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
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**SECTION V – GASB 67 REPORTING INFORMATION**

Because an Actuarially Determined Contribution (ADC) has been calculated historically, the full 10 years of information in the following schedule is required. The actual covered payroll and the ratio of contributions to covered payroll has been left blank prior to FYE 2013 because we do not have that information. The covered payroll shown in this exhibit is pensionable pay for all years reported.

<b>Table V-4</b>					
<b>Schedule of Collective Employer Contributions</b>					
	<b>FYE 2018</b>	<b>FYE 2017</b>	<b>FYE 2016</b>	<b>FYE 2015</b>	<b>FYE 2014</b>
Actuarially Determined Contribution	\$ 619,067	\$ 551,810	\$ 526,805	\$ 592,643	\$ 532,882
Contributions in Relation to the Actuarially Determined Contribution	<u>619,067</u>	<u>551,810</u>	<u>526,805</u>	<u>592,643</u>	<u>532,882</u>
Contribution Deficiency/(Excess)	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>
Covered Payroll	\$ 3,221,544	\$ 3,041,818	\$ 2,836,498	\$ 2,642,752	\$ 2,507,162
Contributions as a Percentage of Covered Payroll	19.22%	18.14%	18.57%	22.43%	21.25%
	<b>FYE 2013</b>	<b>FYE 2012</b>	<b>FYE 2011</b>	<b>FYE 2010</b>	<b>FYE 2009</b>
Actuarially Determined Contribution	\$ 442,870	\$ 410,797	\$ 308,823	\$ 223,614	\$ 119,751
Contributions in Relation to the Actuarially Determined Contribution	<u>442,870</u>	<u>410,797</u>	<u>308,823</u>	<u>223,614</u>	<u>119,751</u>
Contribution Deficiency/(Excess)	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>
Covered Payroll					
Contributions as a Percentage of Covered Payroll					

*Amounts in Thousands*

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
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**SECTION V – GASB 67 REPORTING INFORMATION**

The notes below summarize the key methods and assumptions used to determine the ADC for FYE 2018.

**Notes to Schedule**

Valuation Date	7/1/2016
Timing	Actuarially determined contribution rates are calculated in the actuarial valuation one year prior to the beginning of the plan year

**Key Methods and Assumptions Used to Determine Contribution Rates:**

Actuarial cost method	Entry Age
Asset valuation method	5-year smoothed market
Amortization method	Benefit changes made prior to July 1, 2014 are amortized over closed 20-year periods as a level percentage of payroll The UAL as of July 1, 2013 not attributable to benefit changes was amortized over a closed 19-year period starting July 1, 2014 Assumption changes and experience gains and losses are amortized over a closed 20-year period as a level percentage of payroll Increases in the UAL due to Supplemental COLAs are amortized over a closed 5-year period
Discount rate	7.50%
Amortization growth rate	3.75%
Price inflation	3.25%
Salary increases	3.75% plus merit component based on employee classification and years of service
Mortality	For healthy annuitants, the sex distinct 2009 CalPERS healthy annuitant mortality table, adjusted 1.014 for females and 0.909 for males For active members, the sex distinct 2009 CalPERS employee mortality tables, adjusted 0.918 for females and 0.948 for males.

A complete description of the methods and assumptions used to determine contribution rates for the year ending June 30, 2018 can be found in the July 1, 2016 actuarial valuation report.

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
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**SECTION VI – GASB 68 COLLECTIVE INFORMATION**

We understand that all of the employers elected to use the 2014 measurement date for their initial reporting under GASB 68 on their June 30, 2015 reporting date. As a result, the schedules in this report are to be used for employer reporting as of June 30, 2019 reporting dates and the schedules from our prior report are to be used for employer reporting as of June 30, 2018.

Because the System is a cost-sharing multiple-employer pension plan, each employer participating in the System must reflect a portion of the collective Net Pension Liability, Pension Expense, and Deferred Outflows and Inflows in their financial statements. This section develops the collective amounts that are allocated to participating employers.

The impact of experience gains or losses and assumption changes on the TPL are recognized in expense over the average expected remaining service life of all active and inactive members of the System. As of the measurement date, this recognition period was 5.0 years.

During the year, there was an experience gain of approximately \$42 million. Approximately \$8 million of that gain was recognized as a reduction in collective pension expense in the current year (and identical amounts will be recognized in each of the next four years). Unrecognized experience gains from prior periods were approximately \$151 million, of which \$63 million was recognized as a reduction in collective pension expense in the current year. The combination of the unrecognized current and prior experience gains results in a collective deferred inflow of \$121 million as of June 30, 2018.

Unrecognized increases in the TPL from prior experience losses were approximately \$46 million, of which \$11 million was recognized as an increase in collective pension expense in the current year, resulting in a collective deferred outflow of \$35 million as of June 30, 2018.

Assumption changes since the last measurement date increased the TPL by \$171 million. Approximately \$34 million of that increase was recognized as an increase in pension expense in the current year and an identical amount will be recognized in each of the next four years. Unrecognized increases to the TPL from prior period assumption changes were approximately \$810 million, of which \$278 million was recognized as an increase in collective pension expense in the current year. The combination of the unrecognized current and prior assumption changes that increased the TPL results in a collective deferred outflow of resources as of June 30, 2018 of approximately \$668 million.

Unrecognized decreases in the TPL from prior assumption changes were approximately \$14.7 million, all of which was recognized as a decrease in collective pension expense in the current year, leaving no collective deferred inflow of resources as of June 30, 2018.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment gain of approximately \$862 million. Approximately \$172 million of that gain was recognized in the current year and an identical amount will be recognized in each of the next four years. The combination of unrecognized net investment gains and losses from prior periods was a gain of approximately \$186 million. Approximately \$187 million was recognized as a reduction in collective pension expense in the current year. The

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**SECTION VI – GASB 68 COLLECTIVE INFORMATION**

combination of unrecognized investment gains this year and unrecognized net investment gains and losses from prior periods results in a collective deferred inflow of resources as of June 30, 2018 of approximately \$688 million.

The table below summarizes the current balances of collective deferred outflows and deferred inflows of resources along with the net recognition over the next five years.

<b>Table VI-1</b>		
<b>Schedule of Collective Deferred Inflows and Outflows of Resources</b>		
	<b>Deferred Outflows of Resources</b>	<b>Deferred Inflows of Resources</b>
Differences between expected and actual experience	\$ 34,747	\$ 121,210
Changes in assumptions	667,760	0
Net difference between projected and actual earnings on pension plan investments	<u>0</u>	<u>688,388</u>
<b>Total</b>	<b><u>\$ 702,507</u></b>	<b><u>\$ 809,598</u></b>
Amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense as follows:		
<b>Measurement year ended June 30:</b>		
2019	271,569	
2020	119,290	
2021	(351,214)	
2022	(146,736)	
2023	0	
Thereafter \$	0	

*Amounts in Thousands*

The collective annual pension expense recognized by the employers can be calculated two different ways. First, it is the change in the amounts reported on the employers' Statements of Net Position that relate to the System and are not attributable to employer contributions. That is, it is the change in collective NPL plus the changes in collective deferred outflows and inflows plus participating employer contributions.

Alternatively, annual pension expense can be calculated by its individual components. While GASB does not require or suggest the organization of the individual components shown in the table below, we believe it helps to understand the level and volatility of the collective pension expense.



**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2018 MEASUREMENT DATE**

**SECTION VI – GASB 68 COLLECTIVE INFORMATION**

**Table VI-2  
Calculation of Collective Pension Expense**

	<b>Measurement Year Ending</b>	
	<b>2018</b>	<b>2017</b>
Change in Net Pension Liability	\$ (710,658)	\$ (819,413)
Change in Deferred Outflows	153,490	\$ 938,718
Change in Deferred Inflows	457,907	\$ 108,161
Employer Contributions	<u>619,067</u>	<u>\$ 551,810</u>
<b>Pension Expense</b>	<b>\$ 519,806</b>	<b>\$ 779,276</b>
<b>Pension Expense as % of Payroll</b>	<b>16.14%</b>	<b>25.62%</b>
<b>Operating Expenses</b>		
Service cost	\$ 632,118	\$ 644,277
Employee contributions	(364,696)	(316,844)
Administrative expenses	<u>21,234</u>	<u>18,134</u>
Total	\$ 288,656	\$ 345,567
<b>Financing Expenses</b>		
Interest cost	\$ 2,041,110	\$ 1,924,206
Expected return on assets	<u>(1,687,693)</u>	<u>(1,514,962)</u>
Total	\$ 353,417	\$ 409,244
<b>Changes</b>		
Benefit changes	\$ 0	\$ 0
Recognition of assumption changes	297,944	263,804
Recognition of liability gains and losses	(60,344)	(51,868)
Recognition of investment gains and losses	<u>(359,867)</u>	<u>(187,471)</u>
Total	\$ (122,267)	\$ 24,465
<b>Pension Expense</b>	<b>\$ 519,806</b>	<b>\$ 779,276</b>

*Amounts in Thousands*

The components referred to as operating expenses are items directly attributable to the operation of the plan during the measurement year. Service cost less employee contributions represents the increase in employer-provided benefits attributable to the year, and administrative expenses are the cost of operating the System for the year.

The financing expenses are the interest on the Total Pension Liability, including service cost, less the expected return on assets.

The final category is changes. This category will drive most of the volatility in pension expense from year to year. It includes any changes in benefits made during the year and the recognized amounts due to assumption changes, gains or losses on the TPL, and investment gains or losses.

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
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**SECTION VI – GASB 68 COLLECTIVE INFORMATION**

The total collective pension expense decreased from the prior year by about \$259 million. The recognition of changes decreased by approximately \$147 million, which combined with the increase in employee contributions (\$48 million) and the reduction in financing costs (\$56 million), accounts for almost all of the change in pension expense.

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2018 MEASUREMENT DATE**

**SECTION VII – GASB 68 REPORTING INFORMATION FOR EMPLOYERS**

**Proportionate Shares**

GASB 68 requires that the proportionate share for each employer be determined based on the “employer’s projected long-term contribution effort to the pension ... as compared to the total projected long-term contribution effort of all employers ...” Proportionate shares for each participating employer in the System are determined based on the ratio of each participating employer’s actual contribution to the System during the measurement year to the sum of the actual contributions for all participating employers. The table below shows the actual employer contributions and proportionate shares for each participating employer for the current and prior measurement years.

<b>Table VII-1 Determination of Employers' Proportionate Share</b>					
<b>Employer</b>	<b>June 30, 2018</b>		<b>June 30, 2017</b>		
	<b>Employer Contribution</b>	<b>Proportionate Share</b>	<b>Employer Contribution</b>	<b>Proportionate Share</b>	
City and County	\$ 582,568	94.1042%	\$ 519,073	94.0675%	
Trial Courts	7,176	1.1592%	7,169	1.2992%	
Unified School District	19,533	3.1552%	17,068	3.0930%	
Community College District	9,790	1.5814%	8,500	1.5403%	
<b>Total</b>	<b>\$ 619,067</b>	<b>100.0000%</b>	<b>\$ 551,810</b>	<b>100.0000%</b>	

*Amounts in Thousands*

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
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**SECTION VII – GASB 68 REPORTING INFORMATION FOR EMPLOYERS**

The table below shows the proportionate share of the collective NPL (using three different discount rates), the collective deferred outflows, the collective deferred inflows, and the collective pension expense allocated to each participating employer as of June 30, 2018.

<b>Table VII-2 Schedule of Employers' Proportionate Share of Collective Amounts at June 30, 2018</b>							
<b>Employer</b>	<b>Proportionate Share</b>	<b>Share of NPL @ 6.50%</b>	<b>Share of NPL @ 7.50%</b>	<b>Share of NPL @ 8.50%</b>	<b>Share of Deferred Outflows</b>	<b>Share of Deferred Inflows</b>	<b>Pension Expense</b>
City and County	94.1042%	\$ 7,548,159	\$ 4,030,207	\$ 1,121,159	\$ 661,089	\$ 761,866	\$ 489,159
Trial Courts	1.1592%	92,980	49,645	13,811	8,144	9,385	6,026
Unified School District	3.1552%	253,081	135,128	37,591	22,165	25,544	16,401
Community College District	1.5814%	126,845	67,727	18,841	11,109	12,803	8,220
<b>Total</b>	<b>100.0000%</b>	<b>\$ 8,021,065</b>	<b>\$ 4,282,707</b>	<b>\$ 1,191,402</b>	<b>\$ 702,507</b>	<b>\$ 809,598</b>	<b>\$ 519,806</b>

*Amounts in Thousands*

The proportionate share allocated to each individual employer will change on each measurement date. The net effect of the change in proportion on the share of the collective NPL, collective deferred outflows, and collective deferred inflows allocated to each employer becomes a deferred outflow or inflow for that employer and is recognized over the average future working life of the System's active and inactive members (5 years).

Similarly, the difference between each employer's actual contributions and the employer's proportionate share of collective employer contributions becomes a deferred outflow or inflow for that employer and is recognized over the average future working life of the System's active and inactive members (5 years). Because proportionate shares are determined based on each employer's actual contributions, there is no difference between the actual contributions and the proportionate share of collective contributions for each employer.

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2018 MEASUREMENT DATE**

**SECTION VII – GASB 68 REPORTING INFORMATION FOR EMPLOYERS**

The table below shows the change in proportion and the impact of that change in proportion on the proportionate share of the collective NPL, collective deferred outflows, and collective deferred inflows. It also shows any contribution differences.

Table VII-3 Schedule of Employers' Changes in Proportion and Contribution Differences									
Employer	Proportionate Shares		Impact of Change in Proportion				Contributions		
	6/30/2017	6/30/2018	Net Pension Liability	Deferred Outflows	Deferred Inflows	Net Effect	Actual	Proportionate Share	Difference
City and County	94.0675%	94.1042%	\$ 1,833	\$ 314	\$ (128)	\$ 1,647	\$ 582,568	\$ 582,568	\$ 0
Trial Courts	1.2992%	1.1592%	(6,991)	(1,198)	492	(6,285)	7,176	7,176	0
Unified School District	3.0930%	3.1552%	3,106	532	(219)	2,793	19,533	19,533	0
Community College District	1.5403%	1.5814%	2,052	352	(145)	1,845	9,790	9,790	0
<b>Total</b>	<b>100.0000%</b>	<b>100.0000%</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 619,067</b>	<b>\$ 619,067</b>	<b>\$ 0</b>

*Amounts in Thousands*

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
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**SECTION VII – GASB 68 REPORTING INFORMATION FOR EMPLOYERS**

The table below shows the reconciliation of deferred outflows and inflows due to proportion changes for each participating employer from the prior measurement date to the current measurement date.

**Table VII-4  
Reconciliation of Deferred Outflows and Inflows Due to Proportion Change**

Employer	Deferred Outflows				Deferred Inflows			
	6/30/2017	Current Year Net Effect	Recognition	6/30/2018	6/30/2017	Current Year Net Effect	Recognition	6/30/2018
City and County	\$ 7,020	\$ 1,647	\$ 2,937	\$ 5,730	\$ (7,680)	\$ 0	\$ (3,844)	\$ (3,836)
Trial Courts	140	0	140	0	(3,543)	(6,285)	(2,536)	(7,292)
Unified School District	7,461	2,793	3,914	6,340	(2,563)	0	(855)	(1,708)
Community College District	3,248	1,845	1,989	3,104	(4,083)	0	(1,745)	(2,338)
<b>Total</b>	<b>\$ 17,869</b>	<b>\$ 6,285</b>	<b>\$ 8,980</b>	<b>\$ 15,174</b>	<b>\$ (17,869)</b>	<b>\$ (6,285)</b>	<b>\$ (8,980)</b>	<b>\$ (15,174)</b>

*Amounts in Thousands*

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2018 MEASUREMENT DATE**

**SECTION VII – GASB 68 REPORTING INFORMATION FOR EMPLOYERS**

The table below shows the reconciliation of deferred outflows and inflows due to contribution differences for each participating employer from the prior measurement date to the current measurement date.

<b>Table VII-5</b>									
<b>Reconciliation of Deferred Outflows and Inflows Due to Contribution Differences</b>									
<b>Employer</b>	<b>Deferred Outflows</b>				<b>Deferred Inflows</b>				
	<b>Current</b>				<b>Current</b>				
	<b>Year</b>				<b>Year</b>				
	<b>6/30/2017</b>	<b>Difference</b>	<b>Recognition</b>	<b>6/30/2018</b>	<b>6/30/2017</b>	<b>Difference</b>	<b>Recognition</b>	<b>6/30/2018</b>	
City and County	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Trial Courts	0	0	0	0	0	0	0	0	0
Unified School District	0	0	0	0	0	0	0	0	0
Community College District	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 0</b>

*Amounts in Thousands*

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2018 MEASUREMENT DATE**

**SECTION VII – GASB 68 REPORTING INFORMATION FOR EMPLOYERS**

The table below summarizes the deferred outflows allocated to each employer for experience, assumption changes, investment returns, proportion changes, and contribution differences.

<b>Table VII-6 Schedule of Employers' Deferred Outflows at June 30, 2018</b>						
<b>Employer</b>	<b>Proportionate Shares</b>	<b>Experience</b>	<b>Assumption Changes</b>	<b>Investment Return</b>	<b>Proportion Change</b>	<b>Contribution Difference</b>
City and County	94.1042%	\$ 32,699	\$ 628,390	\$ 0	\$ 5,730	\$ 0
Trial Courts	1.1592%	403	7,741	0	0	0
Unified School District	3.1552%	1,096	21,069	0	6,340	0
Community College District	1.5814%	549	10,560	0	3,104	0
<b>Total</b>	<b>100.0000%</b>	<b>\$ 34,747</b>	<b>\$ 667,760</b>	<b>\$ 0</b>	<b>\$ 15,174</b>	<b>\$ 0</b>

*Amounts in Thousands*

The table below summarizes the deferred inflows allocated to each employer for experience, assumption changes, investment returns, proportion changes, and contribution differences.

<b>Table VII-7 Schedule of Employers' Deferred Inflows at June 30, 2018</b>						
<b>Employer</b>	<b>Proportionate Shares</b>	<b>Experience</b>	<b>Assumption Changes</b>	<b>Investment Return</b>	<b>Proportion Change</b>	<b>Contribution Difference</b>
City and County	94.1042%	\$ 114,064	\$ 0	\$ 647,802	\$ 3,836	\$ 0
Trial Courts	1.1592%	1,405	0	7,980	7,292	0
Unified School District	3.1552%	3,824	0	21,720	1,708	0
Community College District	1.5814%	1,917	0	10,886	2,338	0
<b>Total</b>	<b>100.0000%</b>	<b>\$ 121,210</b>	<b>\$ 0</b>	<b>\$ 688,388</b>	<b>\$ 15,174</b>	<b>\$ 0</b>

*Amounts in Thousands*



**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2018 MEASUREMENT DATE**

**SECTION VII – GASB 68 REPORTING INFORMATION FOR EMPLOYERS**

The table below shows the net amount of deferred outflows and inflows to be recognized in each of the next five years and the total thereafter.

<b>Table VII-8</b>							
<b>Schedule of Employers' Recognition of Deferred Outflows and Inflows at June 30, 2018</b>							
<b>Employer</b>	<b>Recognition for Measurement Year Ending</b>						<b>Thereafter</b>
	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>		
City and County	\$ 257,217	\$ 113,109	\$ (331,456)	\$ (137,754)	\$	0	\$ 0
Trial Courts	613	(547)	(5,641)	(2,958)		0	0
Unified School District	10,279	4,521	(9,474)	(4,073)		0	0
Community College District	3,460	2,207	(4,643)	(1,951)		0	0
<b>Total</b>	<b>\$ 271,569</b>	<b>\$ 119,290</b>	<b>\$ (351,214)</b>	<b>\$ (146,736)</b>	<b>\$</b>	<b>0</b>	<b>\$ 0</b>

*Amounts in Thousands*

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2018 MEASUREMENT DATE**

**SECTION VII – GASB 68 REPORTING INFORMATION FOR EMPLOYERS**

The table below shows the calculation of the pension expense for each participating employer. The calculation is shown first as the sum of the proportionate share of the collective pension expense and the amounts recognized for proportion changes and contribution differences. The right side of the table shows the calculation as the sum of the changes in NPL and deferred amounts not attributable to contributions.

**Table VII-9  
Schedule of Employers' Pension Expense for the Measurement Year Ending June 30, 2018**

Employer	Collective			Employer Pension Expense	Change in Employer			Employer Contributions	Employer Pension Expense
	Pension Expense	Change in Proportion	Contribution Difference		Net Pension Liability	Deferred Outflows	Deferred Inflows		
City and County	\$ 489,159	\$ (907)	\$ 0	\$ 488,252	\$ (666,928)	\$ 145,416	\$ 427,196	\$ 582,568	\$ 488,252
Trial Courts	6,026	(2,396)	0	3,630	(15,227)	3,117	8,564	7,176	3,630
Unified School District	16,401	3,059	0	19,460	(19,316)	5,432	13,811	19,533	19,460
Community College District	8,220	244	0	8,464	(9,187)	2,220	5,641	9,790	8,464
<b>Total</b>	<b>\$ 519,806</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 519,806</b>	<b>\$ (710,658)</b>	<b>\$ 156,185</b>	<b>\$ 455,212</b>	<b>\$ 619,067</b>	<b>\$ 519,806</b>

*Amounts in Thousands*

The table below summarizes the information needed for each employer's schedules of required supplementary information.

**Table VII-10  
Schedule of Employers' RSI Information at June 30, 2018**

Employer	Proportionate Shares	Proportionate Share of NPL	Covered Payroll	NPL as a % of Payroll	Fiduciary Net Position	Contractually Required Contribution	Actual Contributions	Contribution Deficiency	Contributions as a % of Payroll
Trial Courts	1.1592%	49,645	37,120	133.7%	85.2%	7,176	7,176	0	19.3%
Unified School District	3.1552%	135,128	93,450	144.6%	85.2%	19,533	19,533	0	20.9%
Community College District	1.5814%	67,727	45,821	147.8%	85.2%	9,790	9,790	0	21.4%
<b>Total</b>	<b>100.0000%</b>	<b>\$ 4,282,707</b>	<b>\$ 3,221,544</b>	<b>132.9%</b>	<b>85.2%</b>	<b>\$ 619,067</b>	<b>\$ 619,067</b>	<b>\$ 0</b>	<b>19.2%</b>

*Amounts in Thousands*

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2018 MEASUREMENT DATE**

**APPENDIX A – MEMBERSHIP INFORMATION**

<b>Active Member Data - By Group</b>			
	<b>July 1, 2017</b>	<b>July 1, 2016</b>	<b>% Change</b>
<b>Total</b>			
Count	33,447	32,406	3.2%
Average Current Age	46.7	46.9	-0.2
Average Service	10.8	11.1	-0.3
Annual Pensionable Earnings	\$ 3,102,672,358	\$ 2,902,722,369	6.9%
Average Pensionable Earnings	\$ 92,764	\$ 89,574	3.6%
<b>Police</b>			
Count	2,293	2,223	3.1%
Average Current Age	41.0	41.3	-0.3
Average Service	12.4	12.6	-0.2
Annual Pensionable Earnings	\$ 276,596,552	\$ 267,454,223	3.4%
Average Pensionable Earnings	\$ 120,626	\$ 120,312	0.3%
<b>Fire</b>			
Count	1,609	1,560	3.1%
Average Current Age	44.3	44.6	-0.3
Average Service	13.8	14.0	-0.2
Annual Pensionable Earnings	\$ 204,443,368	\$ 195,298,648	4.7%
Average Pensionable Earnings	\$ 127,062	\$ 125,191	1.5%
<b>Miscellaneous</b>			
Count	29,545	28,623	3.2%
Average Current Age	47.3	47.5	-0.2
Average Service	10.5	10.8	-0.3
Annual Pensionable Earnings	\$ 2,621,632,438	\$ 2,439,969,498	7.4%
Average Pensionable Earnings	\$ 88,734	\$ 85,245	4.1%

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2018 MEASUREMENT DATE**

**APPENDIX A – MEMBERSHIP INFORMATION**

<b>Non-Active Member Data - Total System</b>			
	<b>July 1, 2017</b>	<b>July 1, 2016</b>	<b>Change</b>
<b>Retired</b>			
Count	22,587	21,761	3.8%
Average Age	70.4	70.3	0.1
Total Annual Benefit*	\$ 1,045,974,914	\$ 969,672,532	7.9%
Average Annual Benefit	\$ 46,309	\$ 44,560	3.9%
<b>Disabled</b>			
Count	2,572	2,593	-0.8%
Average Age	68.8	68.6	0.2
Total Annual Benefit*	\$ 157,954,899	\$ 154,169,480	2.5%
Average Annual Benefit	\$ 61,413	\$ 59,456	3.3%
<b>Beneficiaries</b>			
Count	3,968	3,932	0.9%
Average Age	77.3	77.4	-0.1
Total Annual Benefit*	\$ 128,500,450	\$ 123,388,233	4.1%
Average Annual Benefit	\$ 32,384	\$ 31,381	3.2%
<b>Payee Total</b>			
Count	29,127	28,286	3.0%
Average Age	71.2	71.1	0.1
Total Annual Benefit*	\$ 1,332,430,263	\$ 1,247,230,245	6.8%
Average Annual Benefit	\$ 45,746	\$ 44,094	3.7%
<b>Inactives</b>			
Count	8,420	7,645	10.1%
Average Age	47.3	47.7	-0.4
Total Contribution Balance with Interest	\$ 228,851,427	\$ 213,978,231	7.0%
Average Contribution Balance with Interest	\$ 27,180	\$ 27,989	-2.9%

\* Benefits provided in June 30 valuation data, plus estimated Basic and Supplemental COLA effective July 1, 2017.  
If applicable, limited by Section 415(b) of the Internal Revenue Code.

Please refer to the July 1, 2016 actuarial valuation report for a more complete summary of the data.

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2018 MEASUREMENT DATE**

**APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS**

A summary of the actuarial assumptions and methods used to calculate the Total Pension Liability as of June 30, 2018 is provided below, including any assumptions that differ from those used in the July 1, 2017 actuarial valuation. Please refer to the July 1, 2017 actuarial valuation report for a complete description of all other assumptions.

**Key Actuarial Assumptions**

**Expected Return on Assets** 7.50 percent net of investment expenses

**Municipal Bond Yield** 3.58 percent as of June 30, 2017  
3.87 percent as of June 30, 2018  
Bond Buyer 20-Bond GO Index, June 29, 2017 and June 28, 2018

**Discount Rate** 7.50 percent

**Administrative Expenses** 0.60 percent of payroll

Basic COLA:

Old Miscellaneous and all New Plans	Old Police & Fire, Pre 7/1/75 Retirements	Old Police & Fire, Charters A8.595 and A8.596	Old Police & Fire, Charters A8.559 and A8.585
2.00%	2.50%	3.10%	4.20%

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2018 MEASUREMENT DATE**

**APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS**

**Supplemental COLA: Before 96 or After Prop C Group**

July 1,	June 30, 2017			June 30, 2018		
	Old Miscellaneous and all New Plans	Old Police & Fire, pre 7/1/75 Retirements	Old Police & Fire & Charter A8.595 and A8.596	Old Miscellaneous and all New Plans	Old Police & Fire, pre 7/1/75 Retirements	Old Police & Fire & Charter A8.595 and A8.596
2018	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2019	0.113%	0.060%	0.020%	0.000%	0.000%	0.000%
2020	0.188%	0.100%	0.030%	0.170%	0.120%	0.050%
2021	0.229%	0.120%	0.030%	0.240%	0.160%	0.060%
2022	0.278%	0.150%	0.040%	0.290%	0.190%	0.080%
2023	0.294%	0.160%	0.040%	0.330%	0.220%	0.090%
2024	0.310%	0.170%	0.040%	0.330%	0.220%	0.090%
2025	0.327%	0.170%	0.040%	0.350%	0.230%	0.090%
2026	0.332%	0.180%	0.040%	0.360%	0.240%	0.100%
2027	0.335%	0.180%	0.040%	0.360%	0.240%	0.100%
2028	0.345%	0.180%	0.050%	0.360%	0.240%	0.100%
2029	0.362%	0.190%	0.050%	0.370%	0.250%	0.100%
2030	0.362%	0.190%	0.050%	0.375%	0.250%	0.100%
2031	0.368%	0.200%	0.050%	0.375%	0.250%	0.100%
2032+	0.375%	0.200%	0.050%	0.375%	0.250%	0.100%

**Supplemental COLA: After 96 and Before Prop C:**

June 30, 2017: Old Misc. and New Plans – 1.5% for July 1, 2017; 0.75% thereafter  
Old Safety Plans – For July 1, 2017, (3.5% less assumed Basic COLA),  
not less than zero; After 2017 – ½ x (3.5% less assumed Basic COLA),  
not less than zero

June 30, 2018: Old Misc. and New Plans – 1.5% for July 1, 2018; 0.75% thereafter  
Old Safety Plans – For July 1, 2018, (3.5% less assumed Basic COLA),  
not less than zero; After 2018 – ½ x (3.5% less assumed Basic COLA),  
not less than zero

**APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS**

**Contribution Allocation Procedure**

The contribution allocation procedure primarily consists of an actuarial cost method, an asset smoothing method, and an amortization method as described below.

**1. Actuarial Cost Method**

The Entry Age actuarial cost method was used for active employees, whereby the normal cost is computed as the level annual percentage of pay required to fund the retirement benefits between each member’s date of hire and assumed retirement. The Actuarial Liability is the difference between the present value of future benefits and the present value of future normal costs. The normal cost and Actuarial Liability are calculated on an individual basis. The sum of the individual amounts is the normal cost and Actuarial Liability for the System.

**2. Asset Valuation Method**

For the purpose of determining contribution rates, an Actuarial Value of Assets is used that dampens the volatility in the Market Value of Assets, resulting in a smoother pattern of contribution rates.

The Actuarial Value of Assets is calculated by recognizing 20% of each of the past five years of actual investment earnings compared to the expected earnings on the Actuarial Value of Assets.

**3. Amortization Method**

The Unfunded Actuarial Liability is the difference between the Actuarial Liability and the Actuarial Value of Assets. Effective with the July 1, 2014 actuarial valuation, the Board adopted changes to the amortization methods. The amortization is based on level percent of pay, assuming pay increases 3.5% a year.

Source	Method
Charter amendments	15-year closed for active members and 5-year closed for inactive members effective July 1, 2014 20-year closed for amortizations established prior to July 1, 2014
Actuarial gains and losses, assumption, and method changes	20-year closed Remaining portion of 2013 amortization is re-amortized over 19 years as of July 1, 2014 2015 assumption change amortization is phased in over 5 years
Supplemental COLAs	5-year closed Remaining portion of 2013 amortization is re-amortized over 19 years as of July 1, 2014

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
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**APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS**

**4. Contributions**

The normal cost for members as of the valuation date, increased with interest to the middle of the year, is divided by the total salary expected to be paid during the year (including new entrants) to determine the total normal cost rate. The employer's normal cost rate is the total normal cost rate less the employee contribution rate.

The total employer contribution rate is the sum of the employer normal cost rate, the administrative expense rate, and the UAL rate. The UAL payments are adjusted for interest from the valuation date to the date of expected payment in the following fiscal year. The UAL rate is determined by dividing the UAL payments by the total expected payroll for the fiscal year (including new entrants).



**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
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**APPENDIX C – SUMMARY OF PLAN PROVISIONS**

The plan provisions are the same as those summarized in the July 1, 2017 actuarial valuation report.

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2018 MEASUREMENT DATE**

**APPENDIX D – DETERMINATION OF DISCOUNT RATE**

FYE	Projected Beginning Fiduciary Net Position	Normal Cost Contribution - Employer and Employee	UAL Contribution	Projected Admin Expenses	Projected Benefit Payments	Projected Investment Earnings	Projected Ending Fiduciary Net Position	"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments
2019*	\$ 24,383,768	\$ 563,517	\$ 442,551	\$ 19,303	\$ 1,500,595	\$ 1,805,167	\$ 25,675,106	\$ 1,500,595	\$ 0
2020	25,675,106	547,562	487,048	18,695	1,589,786	1,899,527	27,000,763	1,589,786	0
2021	27,000,763	530,851	557,965	18,125	1,681,704	1,997,296	28,387,046	1,681,704	0
2022	28,387,046	513,583	554,487	17,546	1,775,527	2,096,777	29,758,820	1,775,527	0
2023	29,758,820	495,734	506,003	16,974	1,873,739	2,193,315	31,063,158	1,873,739	0
2024	31,063,158	477,423	430,592	16,392	1,974,392	2,283,689	32,264,077	1,974,392	0
2025	32,264,077	458,290	415,606	15,800	2,076,229	2,368,455	33,414,399	2,076,229	0
2026	33,414,399	438,185	437,433	15,195	2,179,758	2,450,679	34,545,742	2,179,758	0
2027	34,545,742	417,719	450,296	14,561	2,283,523	2,531,127	35,646,800	2,283,523	0
2028	35,646,800	397,672	466,322	13,934	2,385,421	2,609,511	36,720,950	2,385,421	0
2029	36,720,950	378,212	483,633	13,315	2,486,114	2,685,993	37,769,358	2,486,114	0
2030	37,769,358	359,280	381,954	12,708	2,585,098	2,756,250	38,669,038	2,585,098	0
2031	38,669,038	340,426	386,683	12,104	2,682,846	2,819,323	39,520,520	2,682,846	0
2032	39,520,520	321,976	399,500	11,497	2,778,815	2,879,165	40,330,850	2,778,815	0
2033	40,330,850	303,461	412,452	10,899	2,872,368	2,936,020	41,099,515	2,872,368	0
2034	41,099,515	284,883	425,158	10,293	2,963,175	2,989,848	41,825,935	2,963,175	0
2035	41,825,935	266,622	(199,782)	9,698	3,050,260	3,017,188	41,850,005	3,050,260	0
2036	41,850,005	248,491	(146,852)	9,107	3,134,007	3,016,951	41,825,481	3,134,007	0
2037	41,825,481	230,061	(29,397)	8,509	3,215,716	3,015,515	41,817,435	3,215,716	0
2038	41,817,435	210,711	(28,217)	7,897	3,296,590	3,011,034	41,706,475	3,296,590	0
2039	41,706,475	190,751	20,983	7,256	3,374,933	3,000,683	41,536,702	3,374,933	0
2040	41,536,702	171,233	90,126	6,614	3,446,970	2,986,923	41,331,399	3,446,970	0
2041	41,331,399	152,156	91,351	5,995	3,513,634	2,968,227	41,023,504	3,513,634	0
2042	41,023,504	133,400	102,561	5,377	3,573,345	2,942,494	40,623,237	3,573,345	0
2043	40,623,237	114,983	168,471	4,764	3,627,403	2,912,086	40,186,611	3,627,403	0

\* Fiduciary Net Position based on Chief Investment Officer's Report at the July 10, 2018 Board Meeting

Amounts in Thousands

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2018 MEASUREMENT DATE**

**APPENDIX D – DETERMINATION OF DISCOUNT RATE**

FYE	Projected Beginning Fiduciary Net Position	Normal Cost Contribution - Employer and Employee	UAL Contribution	Projected Admin Expenses	Projected Benefit Payments	Projected Investment Earnings	Projected Ending Fiduciary Net Position	"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments
2044	\$ 40,186,611	\$ 97,395	\$ 211,756	\$ 4,162	\$ 3,674,614	\$ 2,878,421	\$ 39,695,407	\$ 3,674,614	\$ 0
2045	39,695,407	81,016	234,230	3,586	3,712,353	2,840,319	39,135,032	3,712,353	0
2046	39,135,032	65,618	243,352	3,041	3,742,531	2,796,874	38,495,305	3,742,531	0
2047	38,495,305	51,511	243,564	2,514	3,764,191	2,747,537	37,771,211	3,764,191	0
2048	37,771,211	39,536	242,337	2,031	3,773,825	2,692,377	36,969,604	3,773,825	0
2049	36,969,604	30,024	239,004	1,616	3,770,289	2,631,940	36,098,666	3,770,289	0
2050	36,098,666	22,589	234,078	1,275	3,754,567	2,566,805	35,166,297	3,754,567	0
2051	35,166,297	16,826	245,720	994	3,727,856	2,498,171	34,198,164	3,727,856	0
2052	34,198,164	12,416	240,993	763	3,691,316	2,426,693	33,186,187	3,691,316	0
2053	33,186,187	9,039	232,727	580	3,646,111	2,352,179	32,133,441	3,646,111	0
2054	32,133,441	6,483	223,408	431	3,593,233	2,274,904	31,044,571	3,593,233	0
2055	31,044,571	4,572	213,593	314	3,533,335	2,195,204	29,924,291	3,533,335	0
2056	29,924,291	3,149	298,949	225	3,467,260	2,116,917	28,875,820	3,467,260	0
2057	28,875,820	2,127	285,953	157	3,395,413	2,040,638	27,808,969	3,395,413	0
2058	27,808,969	1,387	255,608	106	3,318,531	1,962,553	26,709,880	3,318,531	0
2059	26,709,880	867	241,851	70	3,236,997	1,882,854	25,598,385	3,236,997	0
2060	25,598,385	536	222,044	44	3,151,058	1,802,185	24,472,048	3,151,058	0
2061	24,472,048	315	198,983	28	3,061,328	1,720,438	23,330,428	3,061,328	0
2062	23,330,428	169	186,245	16	2,968,131	1,638,066	22,186,760	2,968,131	0
2063	22,186,760	88	172,837	9	2,871,667	1,555,648	21,043,656	2,871,667	0
2064	21,043,656	42	151,305	5	2,772,309	1,473,090	19,895,779	2,772,309	0
2065	19,895,779	18	133,040	2	2,670,318	1,390,401	18,748,917	2,670,318	0
2066	18,748,917	7	118,557	1	2,565,938	1,308,022	17,609,565	2,565,938	0
2067	17,609,565	2	106,685	0	2,459,461	1,226,388	16,483,179	2,459,461	0
2068	16,483,179	1	96,613	0	2,351,159	1,145,865	15,374,498	2,351,159	0

*Amounts in Thousands*

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2018 MEASUREMENT DATE**

**APPENDIX D – DETERMINATION OF DISCOUNT RATE**

FYE	Projected Beginning Fiduciary Net Position	Normal Cost Contribution - Employer and Employee	UAL Contribution	Projected Admin Expenses	Projected Benefit Payments	Projected Investment Earnings	Projected Ending Fiduciary Net Position	"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments
2069	\$ 15,374,498	\$ 0	\$ 87,130	\$ 0	\$ 2,241,309	\$ 1,066,753	\$ 14,287,072	\$ 2,241,309	\$ 0
2070	14,287,072	0	78,260	0	2,130,200	989,308	13,224,440	2,130,200	0
2071	13,224,440	0	69,938	0	2,018,129	913,782	12,190,031	2,018,129	0
2072	12,190,031	0	59,456	0	1,905,409	840,318	11,184,396	1,905,409	0
2073	11,184,396	0	51,663	0	1,792,369	769,125	10,212,815	1,792,369	0
2074	10,212,815	0	44,938	0	1,679,370	700,523	9,278,906	1,679,370	0
2075	9,278,906	0	38,779	0	1,566,827	634,749	8,385,607	1,566,827	0
2076	8,385,607	0	33,077	0	1,455,176	572,003	7,535,510	1,455,176	0
2077	7,535,510	0	13,509	0	1,344,862	511,932	6,716,089	1,344,862	0
2078	6,716,089	0	8,559	0	1,236,346	454,629	5,942,932	1,236,346	0
2079	5,942,932	0	7,726	0	1,130,105	400,855	5,221,409	1,130,105	0
2080	5,221,409	0	5,001	0	1,026,626	350,775	4,550,559	1,026,626	0
2081	4,550,559	0	3,411	0	926,403	304,407	3,931,974	926,403	0
2082	3,931,974	0	2,737	0	829,910	261,843	3,366,644	829,910	0
2083	3,366,644	0	905	0	737,613	223,063	2,852,999	737,613	0
2084	2,852,999	0	(543)	0	649,994	187,987	2,390,449	649,994	0
2085	2,390,449	0	(383)	0	567,507	156,597	1,979,156	567,507	0
2086	1,979,156	0	(288)	0	490,553	128,828	1,617,143	490,553	0
2087	1,617,143	0	(463)	0	419,474	104,510	1,301,716	419,474	0
2088	1,301,716	0	(743)	0	354,538	83,437	1,029,873	354,538	0
2089	1,029,873	0	(999)	0	295,914	65,382	798,342	295,914	0
2090	798,342	0	(1,053)	0	243,660	50,102	603,732	243,660	0
2091	603,732	0	(916)	0	197,738	37,346	442,423	197,738	0
2092	442,423	0	(607)	0	157,990	26,848	310,674	157,990	0
2093	310,674	0	254	0	124,135	18,351	205,144	124,135	0

*Amounts in Thousands*

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2018 MEASUREMENT DATE**

**APPENDIX D – DETERMINATION OF DISCOUNT RATE**

FYE	Projected Beginning Fiduciary Net Position	Normal Cost Contribution - Employer and Employee	UAL Contribution	Projected Admin Expenses	Projected Benefit Payments	Projected Investment Earnings	Projected Ending Fiduciary Net Position	"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments
2094	\$ 205,144	\$ 0	\$ 924	\$ 0	\$ 95,782	\$ 11,593	\$ 121,879	\$ 95,782	\$ 0
2095	121,879	0	1,572	0	72,475	6,303	57,279	72,475	0
2096	57,279	0	2,264	0	53,696	2,234	8,082	53,696	0
2097	8,082	0	2,995	0	38,890	(837)	(28,650)	8,082	30,808
2098	(28,650)	0	5,885	0	27,489	(3,030)	(53,285)	0	27,489
2099	(53,285)	0	6,720	0	18,930	(4,505)	(70,000)	0	18,930
2100	(70,000)	0	6,814	0	12,678	(5,506)	(81,369)	0	12,678
2101	(81,369)	0	7,177	0	8,251	(6,168)	(88,610)	0	8,251
2102	(88,610)	0	7,408	0	5,223	(6,582)	(93,007)	0	5,223
2103	(93,007)	0	7,504	0	3,226	(6,828)	(95,557)	0	3,226
2104	(95,557)	0	7,771	0	1,960	(6,959)	(96,705)	0	1,960
2105	(96,705)	0	7,991	0	1,189	(7,006)	(96,909)	0	1,189
2106	(96,909)	0	7,958	0	736	(7,005)	(96,691)	0	736
2107	(96,691)	0	7,917	0	478	(6,979)	(96,232)	0	478
2108	(96,232)	0	7,913	0	333	(6,939)	(95,591)	0	333
2109	(95,591)	0	7,925	0	249	(6,887)	(94,803)	0	249
2110	(94,803)	0	7,929	0	198	(6,826)	(93,898)	0	198
2111	(93,898)	0	7,899	0	163	(6,758)	(92,921)	0	163
2112	(92,921)	0	7,834	0	137	(6,686)	(91,910)	0	137
2113	(91,910)	0	7,740	0	115	(6,613)	(90,898)	0	115
2114	(90,898)	0	7,561	0	95	(6,543)	(89,975)	0	95
2115	(89,975)	0	7,408	0	78	(6,478)	(89,123)	0	78
2116	(89,123)	0	7,264	0	62	(6,419)	(88,341)	0	62
2117	(88,341)	0	7,117	0	48	(6,365)	(87,638)	0	48
2118	(87,638)	0	6,967	0	37	(6,318)	(87,026)	0	37

*Amounts in Thousands*

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2018 MEASUREMENT DATE**

**APPENDIX D – DETERMINATION OF DISCOUNT RATE**

FYE	Projected Beginning Fiduciary Net Position	Normal Cost Contribution - Employer and Employee	UAL Contribution	Projected Admin Expenses	Projected Benefit Payments	Projected Investment Earnings	Projected Ending Fiduciary Net Position	"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments	
2119	\$ (87,026)	\$ 0	\$ 6,498	\$ 0	\$ 27	\$ (6,289)	\$ (86,843)	\$ 0	\$ 27	
2120	(86,843)	0	6,329	0	19	(6,281)	(86,814)	0	19	
2121	(86,814)	0	6,300	0	12	(6,280)	(86,806)	0	12	
2122	(86,806)	0	6,243	0	8	(6,281)	(86,852)	0	8	
2123	(86,852)	0	6,205	0	4	(6,286)	(86,937)	0	4	
2124	(86,937)	0	6,191	0	2	(6,292)	(87,040)	0	2	
2125	(87,040)	0	6,154	0	1	(6,301)	(87,189)	0	1	
2126	(87,189)	0	6,124	0	0	(6,314)	(87,380)	0	0	
								Discount Rate:	7.50%	3.87%
								Present Value:	\$ 33,703,090	\$ 5,292
								Total Present Value:	\$	33,708,382
								GASB Discount Rate:		7.50%

*Amounts in Thousands*

## APPENDIX E – GLOSSARY OF TERMS

### 1. Actuarially Determined Contribution

A target or recommended contribution for the reporting period, determined in conformity with Actuarial Standards of Practice based on the most recent measurement available when the contribution for the reporting period was adopted.

### 2. Actuarial Valuation Date

The date as of which an actuarial valuation is performed. This date may be up to 24 months prior to the measurement date and up to 30 months prior to the employer's reporting date.

### 3. Deferred Inflow of Resources

An acquisition of net assets by a government employer that is applicable to a future reporting period. In the context of GASB 68, these are experience gains on the Total Pension Liability, assumption changes reducing the Total Pension Liability, or investment gains that are recognized in future reporting periods.

### 4. Deferred Outflow of Resources

A consumption of net assets by a government employer that is applicable to a future reporting period. In the context of GASB 68, these are experience losses on the Total Pension Liability, assumption changes increasing the Total Pension Liability, or investment losses that are recognized in future reporting periods.

### 5. Entry Age Actuarial Cost Method

The actuarial cost method required for GASB 67 and 68 calculations. Under this method, 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. The portion of this actuarial present value allocated to a valuation year is called the service cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future service costs is called the Total Pension Liability.

### 6. Measurement Date

The date as of which the Total Pension Liability and Plan Fiduciary Net Position are measured. The Total Pension Liability may be projected from the actuarial valuation date to the measurement date. The measurement date must be the same as the reporting date for the plan.

**APPENDIX E – GLOSSARY OF TERMS**

**7. Net Pension Liability**

The liability of employers and nonemployer contributing entities to employees for benefits provided through a defined benefit pension plan. It is calculated as the Total Pension Liability less the Plan Fiduciary Net Position.

**8. Plan Fiduciary Net Position**

The fair or Market Value of Assets.

**9. Reporting Date**

The last day of the plan or employer's fiscal year.

**10. Service Cost**

The portion of the actuarial present value of projected benefit payments that is attributed to the current period of employee service in conformity with the requirements of GASB 67 and 68. The service cost is the normal cost calculated under the entry age actuarial cost method.

**11. Total Pension Liability**

The portion of the actuarial present value of projected benefit payments that is attributed to past periods of employee service in conformity with the requirements of GASB 67 and 68. The Total Pension Liability is the Actuarial Liability calculated under the entry age actuarial cost method.





*Classic Values, Innovative Advice*